

**Saugus River and Tributaries, Lynn, Malden, Revere and
Saugus, Massachusetts**

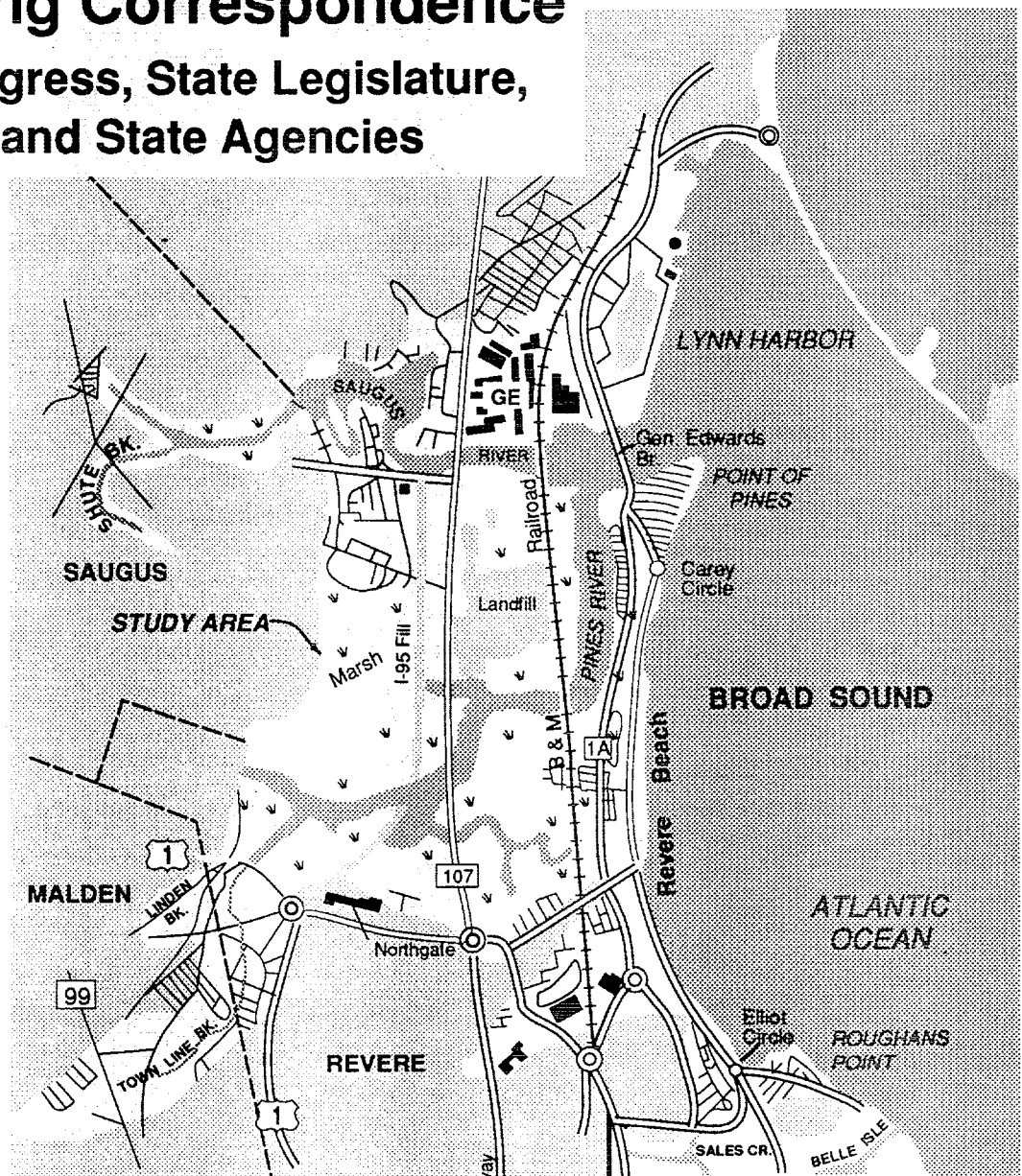
Flood Damage Reduction

Volume 5

Appendix

I - Planning Correspondence

U. S. Congress, State Legislature,
Federal and State Agencies



**US Army Corps
of Engineers**
New England Division

SAUGUS RIVER AND TRIBUTARIES FLOOD DAMAGE REDUCTION STUDY Lynn, Malden, Revere and Saugus, Massachusetts/Summary of Study Reports:

Main Report and Environmental Impact Statement/Report (EIS/EIR): Summarizes the coastal flooding problems in the study area and alternative solutions; describes the selected plan and implementation responsibilities of the selected plan; and identifies environmental resources in the study area and potential impacts of alternative solutions, as required by the Federal (NEPA) and state (MEPA) environmental processes.

Plan Formulation (Appendix A): Provides detailed information on the coastal flooding problem and the alternatives investigated; includes: sensitivity analyses on floodgate selection (including location and size of gates and sea level rise); optimization of plans; comparison of alternative measures to reduce impacts; and public concerns.

Hydrology and Hydraulics (Appendix B): Includes descriptions of: the tidal hydrology and hydrology of interior runoff in the study area, and of wave runup and seawall overtopping, interior flood stage frequencies, tide levels, flushing, currents, and sea level rise effects without and with the selected project for various gated openings.

Water Quality (Appendix C): Includes descriptions of existing water quality conditions in the estuary and explores potential changes associated with the selected plan.

Design and Costs (Appendix D): Includes detailed descriptions, plans and profiles and design considerations of the selected plan; coastal analysis of the shorefront; detailed project costs; scope and costs of engineering and design; scope and costs of operation and maintenance; and design and construction schedules.

Geotechnical (Appendix E): Describes geotechnical and foundation conditions in the study area and the design of earth embankment structures in the selected plan.

Real Estate (Appendix F): Describes lands and damages, temporary and permanent easements and costs of the selected plan, including the five floodgate alignments studied.

Economics (Appendix G): Describes recurring and average annual damages and benefits in study area floodzones; economic analysis and optimization of alternative plans.

Socioeconomic (Appendix H): Describes the socioeconomic conditions in the study area and the affects of the selected plan on development in the floodplain and estuary.

Planning Correspondence (Appendix I): Includes all letters between community officials, agencies, organizations and the public and the Corps prior to agency and public review of the draft report.

Feasibility Study and EIS/EIR Comments and Responses (Appendix J): Includes all comments and Corps responses to letters received during agency and public review.

Environmental (Appendix K): Includes basic data from investigations of environmental resources in the study area and presents the Mitigation Incremental Analysis.

SAUGUS RIVER AND TRIBUTARIES
FLOOD DAMAGE REDUCTION STUDY
LYNN, MALDEN, REVERE AND
SAUGUS, MASSACHUSETTS

PLANNING CORRESPONDENCE

APPENDIX I

VOLUME 5: U. S. Congress,
State Legislature, Federal and
State Agencies

Department of the Army
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254-9149

June 1989

**FLOOD DAMAGE REDUCTION STUDY
SAUGUS RIVER AND TRIBUTARIES
LYNN, MALDEN, REVERE AND SAUGUS, MA**

PLANNING CORRESPONDENCE (to May 1989)

TABLE OF CONTENTS

VOLUME 5

A. U. S. CONGRESS

1. Edward J. Markey, Member of Congress, March 4, 1982
2. Nicholas Mavroules, Member of Congress, February 25, 1986
3. Corps reply to Congressman Mavroules, March 3, 1986
4. Edward J. Markey, Member of Congress, April 8, 1986
5. Letter to Congressman Markey, February 20, 1987
6. Letter to Congressman Mavroules, February 20, 1987
7. Letter to Congressional Delegation, March 26, 1987
8. Nicholas Mavroules, Member of Congress, April 13, 1987
9. Nicholas Mavroules, Member of Congress, April 13, 1987
10. Letter to Congressman Mavroules, June 9, 1987
11. Letter to Congressman Markey, August 23, 1988

B. STATE LEGISLATURE/GOVERNOR'S OFFICE

1. Alfred E. Saggese, Jr., State Representative, July 30, 1980
2. Alfred E. Saggese, Jr., State Representative, April 29, 1986
3. Corps reply to Representative Saggese, May 21, 1986
4. Michael S. Dukakis, Governor, October 10, 1986
5. Letter to Representative Angelo, March 9, 1987
6. Letter to Representative Saggese, March 12, 1987
7. Letter to State Legislators, March 27, 1987

C. FEDERAL AGENCIES

1. Gordon E. Beckett, Supv., Fish and Wildlife Ser., January 25, 1983
2. Letter to State & Federal Agencies, November 21, 1985
3. Letter to NMFS and EPA, November 27, 1985
4. Bruce E. Higgins, Dep. Br. Ch., Nat. Marine Fisheries Ser., Dec. 2, 1985
5. C.L. Dunkley, Jr., Distr. Engr., Fed. Highway Admin., December 3, 1985
6. Jim C. Gott, Superintendent, (NPS) Saugus Iron Works, December 10, 1985

C. FEDERAL AGENCIES (Continued)

7. Gordon E. Beckett, Supv., Fish and Wildlife Ser., February 4, 1986
8. Elizabeth A. Higgins, Ass't Dir. Env. Review, EPA, June 17, 1986
9. S. L. Richmond, Captain, United States Coast Guard, June 8, 1987
10. Letter to EPA, NMFS and F&W Ser., June 18, 1987
11. Letter to transmit Notice of Intent for DEIS, April 28, 1987
12. Elizabeth Higgins Congram, Ass't. Div., Env. Review, EPA, June 30, 1987
13. Thomas E. Bigford, Br. Ch., Nat. Marine Fisheries Ser., July 2, 1987
14. Edward A. Thomas, Ch., Natural & Tech. Hazards Div., FEMA, July 2, 1987
15. Vernon Lang, Act. Supv., F&W Ser., (Enviv. Issues), November 9, 1987
16. Gordon E. Beckett, Supv., F&W Ser., (Endangered Species), Apr. 22, 1988
17. Douglas W. Beach, Nat. Marine Fish. Ser., (Endanger Species), Apr. 29, 1988
18. Gordon E. Beckett, Supv., F&W Serv., June 22, 1988
19. Gordon E. Beckett, Supv., F&W Serv., Sep. 15, 1988
20. Gordon E. Beckett, Supv., F&W Serv., Oct. 18, 1988
21. Douglas A. Thompson, Ch., Wetland Prot., EPA, Dec. 15, 1988
22. Gordon E. Beckett, Supv., F&W Serv., Jan. 20, 1989
23. Vernon Lang, Act. Supv., F&W Serv., March 7, 1989
24. Letter to Mr. Gordon E. Beckett, F&W Ser., March 28, 1989
25. Gordon E. Beckett, Supv., F&W Ser., May 4, 1989
26. Corps Response to F&W's May 4, 1989 Coordination Act Report

D. STATE AGENCIES

1. Letter to Metropolitan District Comission, Jan. 7, 1983
2. Letter to MDC's consultant, May 18, 1984
3. Letter to State Agencies, Nov. 15, 1985
4. Letter to State and Federal Agencies, Nov. 21, 1985
5. James J. Fair, Jr., Ass't Dir., Div. of Marine Fisheries, Nov 20, 1985
6. H. W. Heusmann, Waterfowl Biologist, Div. Fish. & Wildlife, Dec 12, 1985
7. Samuel G. Mygatt, Exec. Dir., Env. Impact Rev., MEPA, EOEA, Dec 13, 1985
8. Robert J. Valinote, P.E., Supv., Parks Eng. & Const. Div., MDC, Dec 19, 1985
9. Joanne Michaud, Env. Reviewer, MA. Natural Heritage Prog., Jan 2, 1986
10. Margo T. Webber, Ass't San. Eng., Div. Water Pollu. Con., Feb. 3, 1986
11. William J. Geary, Commissioner, Metro. District Comm., February 7, 1986
12. William A. Krol, P.E., Dep. Reg. Env. Engr., Dept. Env. Qual. Eng., Feb 12, 1986
13. James S. Hoyte, Secretary, Exec. Ofc. Envir. Affairs, February 19, 1986
14. William H. Lesser, Sen. Plnr., Dept. Envir. Mgmt., February 21, 1986
15. Letter to Sec. Hoyte, Exec. Ofc. Envir. Affairs, May 1, 1986
16. James S. Hoyte, Secretary, Exec. Ofc. Envir. Affairs, June 16, 1986
17. Richard F. Delaney, Director, Coastal Zone Mgmt., June 19, 1986
18. Letter transmitting ENF to Sec. Envir. Affairs, March 11, 1987
19. Letter to State Agency Contacts, March 26, 1987
20. H.W. Heusmann, Waterfowl Biologist, Div. Fish & Wildlife, April 2, 1987

D. STATE AGENCIES (Continued)

21. Joanne Michaud, Env. Reviewer, MA. Natural Heritage Prog., April 7, 1987
22. Joel B. Bard, Deputy Dir., Metro. Area Planning Council, April 13, 1987
23. Richard F. Delaney, Director, Coastal Zone Mgmt., April 21, 1987
24. James S. Hoyte, Secretary, Exec. Ofc. Envir. Affairs, April 27, 1987
25. William Geary, Comm., MDC to Sec. Hoyte, October 9, 1987
26. Letter to Sec. Hoyte, Exec. Ofc. Envir. Affairs, October 15, 1987
27. James S. Hoyte, Sec., E.O.E.A., (MDC State Proponent), November 9, 1987
28. James. S. Hoyte, Sec., E.O.E.A., (MDC State Proponent), December 14, 1987
29. Jan Smith, MA. C.Z.M. (CSO's Lynn Overflow), February 26, 1988
30. James S. Hoyte, Sec., E.O.E.A., (A.C.E.C.), Apr. 1, 1988
31. James S. Hoyte, Sec., E.O.E.A., (A.C.E.C. Nomination), Apr. 8, 1988
32. James S. Hoyte, Sec., E.O.E.A., (A.C.E.C. Public Notice,), May 4, 1988
33. Letter to Sec. Hoyte, E.O.E.A. (A.C.E.C. Reply), June 10, 1988
34. Letter to MDC, Lynn, Malden, kRevere, Saugus, (IRC), Oct. 11, 1988
35. James S. Hoyte, Sec., E.O.E.A. (ACEC Designation) Aug. 22, 1988
36. Letter to Sec. Hoyte, August 25, 1988
37. Letter to Mr. Francis Faucher, Dir., MDC, October 5, 1988
38. Letter to Comm. Geary, MDC (Life Cycle P.M.), January 18, 1989
39. William J. Geary, Comm., MDC (O&M), March 27, 1989

VOLUME 6

E. CITY OF LYNN

1. Antonio J. Marino, Mayor of Lynn, December 19, 1984.
2. Letter to Mayor of Lynn, Jan 15, 1985
3. Paul A. Petrowski, Chm., Lynn Conservation Comm., Dec. 17, 1985
4. Letter to Mayor DiVirgilio, Feb. 12, 1986
5. Albert V. DiVirgilio, Mayor of Lynn, March 11, 1986
6. Letter to Mayor of Lynn, April 7, 1986
7. Mrs. John Skangos, Resident of Lynn, June 9, 1986
8. Albert V. DiVirgilio, Mayor of Lynn, June 23, 1986
9. Letter to Mayor DiVirgilio, February 6, 1987
10. Letter to Lynn Citizen Steering Comm., February 19, 1987
11. Letter to Mr. Michael T. Carroll, General Electric, February 19, 1987
12. Harry W. Coppola, Councillor, Feb. 26, 1987 and Corps reply, Mar. 6, 1987
13. Albert V. DiVirgilio, Mayor of Lynn, March 23, 1987
14. Letter to Mr. Peter M. DeVeau, Ofc. Econ. Dev., March 23, 1987
15. Letter to Mr. E. James Ryan, P.E., City Eng., Lynn, March 23, 1987
16. Letter to Mr. Maurice F. Kennedy, No. Amer. Philips Light Co., Mar. 25, 1987
17. Letter to Mr. Paul N. Varadian, TransContinental Dev. Corp., Mar. 25, 1987
18. Letter to Mr. John E. Ryder, P.E. Bay Marine Trust, March 25, 1987
19. Letter to Mr. Xavier Bertolino, Sr., The Gloucester Corp., Mar. 25, 1987
20. Letter to Mr. John E. Ryder, Rep., Lynn Area Chamb. of Comm., Jan. 12, 1988
21. Letter to Lynn Citizen Steer. Comm. (Meeting on Align #2) May 24, 1988
22. Stephen L. Smith, Ass't Planning Director, Lynn, Sep. 14, 1988
23. Letter to Mayor DiVirgilio (IRC), October 7, 1988

F. CITY OF MALDEN

1. Thomas H. Fallon, Mayor of Malden, August 2, 1985
2. Charles V. Maccario, Chm., Malden Conservation Comm., Feb 10, 1986
3. Letter to Mayor Conway, February 6, 1987
4. Letter to Malden Citizen Steering Comm., February 19, 1987
5. Alfred L. Thurlow, Principal Planner, April 8, 1987
6. Letter to Mr. John T. Kelly, City Engineer, May 19, 1987
7. Alfred L. Thurlow, Principal Planner, May 28, 1987
8. Letter to Mayor Conway (IRC), October 7, 1988

G. CITY OF REVERE

1. George V. Colella, Mayor of Revere, October 23, 1978
2. Ellen Haas, Chw., Revere Beach Citizens Adv. Com., February 21, 1979
3. George V. Colella, Mayor of Revere, August 6, 1980
4. Mary C. Duffy, Sec., Pines Riverside Assoc., April 11, 1981
5. Robert Krinsky, Ofc. of Planning & Community Dev., Oct 6, 1981
6. George V. Colella, Mayor of Revere, February 8, 1982
7. Letter to Pines River Association, Apr. 29, 1982
8. Letter to Conservation Commissions, November 27, 1985
9. Letter to Mayor Colella, Feb. 12, 1986
10. George V. Colella, Mayor of Revere, March 25, 1986
11. Joseph A. LaValle, Chm. Revere Conservation Comm., July 2, 1986
12. Letter to Mayor Colella, February 6, 1987
13. Letter to Revere Citizen Steering Comm., February 19, 1987
14. Elaine Hurley, V.P., Pines Riverside Assoc., March 5, 1987
15. John R. Arrigo, Resident, Revere, March 18, 1987
16. George V. Colella, Mayor of Revere, March 23, 1987
17. Letter to Mr. Joseph A. LaValle, Chm., Conservation Comm., March 23, 1987
18. Letter to Mr. Vincent A. Piccinni, Point of Pines Y.C., March 23, 1987
19. Vincent A. Piccinni, Commodore, Pt. of Pines Y.C., March 30, 1987
20. Ellen Haas, Chw., Revere Beach Citizens Adv. Com., April 13, 1987
21. Letter to Mr. Paul A. Cacciola, Staff Engineer, May 19, 1987
22. Oak Island Residents Assoc., May 27, 1987
23. Letter to Mayor Colella, June 22, 1987
24. Letter to John Arrigo, Pres., Oak Is. Res. Assoc., June 29, 1987
25. R. Sandberg, Oak Is. Res. Assoc., July 10, 1987
26. David Castagnetti, Proj. Planner, D. of Plng & Comm. Dev., July 13, 1987
27. Ltr. to Ms. Rose LaQuaglia, & Ralph Sandberg, Oak I. Res. Assoc., Jul 21, 1987
28. George V. Colella, Mayor of Revere, (Point of Pines), January 7, 1988
29. Letters to John Arrigo & Richard Penn, City Councillors, January 15, 1988
30. Letter to Mayor Colella, (Point of Pines), March 16, 1988
31. Letter to Revere Cit. Steer. Comm. and PT. of Pines Trustees, May 18, 1988
32. George V. Colella, Mayor, Revere, (PT. of Pines & Option 3), June 10, 1988
33. Letter to Point of Pines Residents (workshop), June 22, 1988
34. Elaine Hurley, Pres., Pines Riverside Assoc., June 26, 1988
35. Vincent A. Piccini, Commodore, Pt. of Pines Y.C., June 28, 1988
36. Vernard and Sylvia Blume, Revere, July 7, 1988
37. John R. Marino, Conservation Commission, July 12, 1988
38. Letter to Commodore Piccinni, July 20, 1988
39. Letter to Ms. Elaine Hurley, Pres., Pines Riverside Assoc., July 26, 1988
40. Letter to Mayor Colella, Revere, (IRC) October 7, 1988
41. Frank Stringi, Dir., D. of Planning & Comm. Dev., Nov. 22, 1988

H. TOWN OF SAUGUS

1. Norman B. Hansen, Temp. Town Manager of Saugus, Sep 9, 1981
2. Paul T. Rabchenuk, Town Manager of Saugus, April 23, 1985
3. Letter to Mr. Rabchenuk, Town Manager, Feb. 12, 1986
4. Richard Mytkowicz, Concerned Citizen, Oct. 27, 1986
5. Letter to Mr. Rabchenuk, Town Manager, February 6, 1987
6. Letter to Saugus Citizen Steering Comm., February 19, 1987
7. Norman B. Hansen, Temp. Town Manager of Saugus, March 9, 1987
8. Anne Cyros & Frank McKinnon, Saugus Conservation Comm., March 30, 1987
9. Ellen Burns, Pres., Saugus Action Volunteers for the Envir., April 6, 1987
10. Ellen Burns, Pres., Saugus Action, Volunteers for the Envir., April 13, 1987
11. Letter to Mr. Norman B. Hansen, Acting Town Mgr., June 22, 1987
12. Joyce Villani, Clerk, Saugus Bd. of Select. (Favor Option #3), Mar. 22, 1988
13. Dennis Roy, Saugus Eng. Dept. (Meeting Notice) May 23, 1988
14. Peter Manoogian, Board of Selectmen, June 27, 1988
15. Letter to Mr. Manoogian, Board of Selectman, July 25, 1988
16. Letter to Mr. Hansen, Town Manager (IRC), Oct. 7, 1988

I. NEWS ARTICLES

- 1A. Public Assistance Sought for Flood Study, Oct. 1985
1. Army Starts Study of Local Flooding, Oct. 1985
2. Mayor Reports Progress on Flood Control Plans, Oct. 1985
3. Engineers, City Parley on Floods, May 5, 1986
- 3A. Flood Prevention Study Continues, April 1986
4. Council Briefed on Flood Report, May 6, 1986
5. Storm Protection Proposal Pushed, May 6, 1986
6. Flood Prevention Program Unveiled to City, May 8, 1986
7. Viewpoints, May 8, 1986
8. The Attempt to Curb Flooding, May 7, 1986
9. Battle to Fight Flooding, May 7, 1986
10. Flood Control Options Aired for Saugus River, May 16, 1986
11. Survey is Being Made In Saugus River Area, May 30, 1986
12. Army Eng. Review Flood Damage Results, February 13, 1987
13. Army Eng. Detail Options for Reducing Flood Prob., March 3, 1987
14. Corps Will Start Work in Revere, March 4, 1987
15. Flood Reduction Study Proceedings, March 16, 1987
16. News Media Distribution List
17. Notice of Intent to Submit ENF, March 18, 1987
18. Engineers Would Build Floodgate at Saugus River, March 15-18, 1987
19. The Environmental Monitor, ENF, March 26, 1987
20. Environmental Meeting on Flood Control Proposals, March 27, 1987
21. Tidal Flooding Meeting, April 1, 1987
22. Meeting Set on Tidal Flooding, May 18, 1987

23. Army Engr. Solicit Opinions on Flood Damage Study, May 20, 1987
24. Corps Begins Flood Control Report, June 5, 1987
25. Engineers Concerned about I-95 Sandpile, July 2, 1987
26. Opening Up the Floodgates (New Bedford Field Trip), Nov. 18, 1988
27. Stink Over Sand Rises Anew, September 25, 1987
27. Town Gets Update on Plans for Saugus River, February 5, 1988
28. Saugus River Floodgate Project Proposed by Corps, Winter 1988
29. Broad Sound's Future Topic for Discussion, May 23, 1988
29. Broad Sound Designation Explained, May 31, 1988
30. Task Force Questions Dredging Impact, May 18, 1988
30. Would ACEC Slow Beaches Growth, April 28, 1988
31. Engineers Schedule Workshop, June 21, 1988
32. Thinking Aloud, June 15, 1988
33. Geary Maintains Stand on Shoreline Sanding, June 15, 1988
34. Preserving Environment, June 16, 1988
35. More ACEC Questions, June 16, 1988
36. Saugus Sounds Off, June 24, 1988
37. Engineers, Officials Seek F.C. Compromise, July 5, 1988
38. Marsh Area Gets New Status, Aug. 23, 1988
39. EPA Hits Revere Firms for Filling Marsh, Sep. 1, 1988
40. I-95 Sandpiles to become Passive Recreation Lands, Sep. 21, 1988
41. "T" Must Remove Landfill at Bridge, Oct. 3, 1988
42. Classic Nor'easter Takes a Toll Along Coast, Oct. 24, 1988
43. Feds Check Out \$57 M Floodgate Plan, Oct. 26, 1988
44. MDC to Draw Plan Conv. I-95 ROW to Park, Oct. 31, 1988
45. Track Work-to Threaten Marshland, Nov. 1, 1988
46. MDC Preparing for Work on E. Saugus Park, Nov. 9, 1988
47. Wetlands Warden, Nov. 20, 1988
48. Rising Sea Level - claim - Saugus Coastline, Feb. 1989
49. State Moves to Plug Wetlands Protection Loopholes, March 19, 1989

J. INTEREST GROUPS AND OTHER LETTERS

1. Ltr. to Mr. Frank Anderson, Concerned Coastal Sportsmen, Mar. 23, 1987
2. Polly Bradley, Sec., S.W.I.M., Nahant, March 27, 1987
3. Invitation to MEPA scoping meeting, March 24, 1987
4. Mass. Assoc. of Conservation Comm., March 30, 1987
5. Richard K. Quateman, Dir. Gloucester Ofc., MA. Audubon Soc., April 10, 1987
6. Judith C. Skinner, Board of Dir., MA. Assoc. Cons. Comm., Apr. 12, 1987
7. Norma Brooks, Member, S.W.I.M., Nahant, April 14, 1987
8. Paul Hauge & Sally Newbury, Conservation Law Foundation, April 15, 1987
9. Judith C. Skinner, Board of Dir., MACC, April 16, 1987
10. Polly Bradley, Sec., S.W.I.M., Nahant, April 15, 1987
11. Invitation to NEPA scoping meeting, May 14, 1987
12. Norma Brooks, Member, S.W.I.M., Nahant, June 11, 1987

J. INTEREST GROUPS AND OTHER LETTERS (Continued)

13. Polly Bradley, Pres., S.W.I.M., Nahant, June 11, 1987
14. Letter to Polly Bradley, Pres. S.W.I.M., July 14, 1987
15. Letter to Richard K. Quateman, Dir. MA. Audubon Soc., July 14, 1987
16. Letter to Judith C. Skinner, Member Bd. of Dir., MACC, July 14, 1987
17. Letter to Study Participants on Barrier Field Trip, Oct. 19, 1987
18. Letters to Study Participants, (Correspond. Update), Oct. 30, 1987
19. Attendance - Trip to Providence and New Bedford Barriers, Nov. 10, 1987
20. Letter to Polly Bradley, Pres., S.W.I.M. (News Article) Oct. 30, 1987
21. Polly Bradley, President, S.W.I.M., (Refr. News Article), Nov. 30, 1987
22. Letter to Technical Group (Meeting Notice), January 19, 1988
23. Letter to Norma Brooks, S.W.I.M. (Mem. Tech. Grp.), January 20, 1988
24. Alexandra D. Dawson, Pres., MA Assoc. of Conserv. Comm., Feb. 3, 1988
25. Notice to Technical Group (Meeting Rescheduled), February 5, 1988
26. Letter to Study Participants, April 13, 1987
27. Letter Sent to Study Participants, Aug. 1988
28. Letter to Study Participants, Oct. 5, 1988
29. Frank E. Anderson, Pres., Coastal Sportsmen, Oct. 22, 1988
30. Letter to Study Participants, April 26, 1989

U.S. CONGRESS

EDWARD J. MARKEY
6TH DISTRICT, MASSACHUSETTS

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Washington, D.C. 20515

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4 March 1982

Colonel C. E. Edgar, III
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02154

Dear Colonel Edgar:

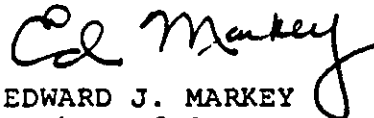
I am writing to again express my strong concern for and interest in the coastal flooding study the Corps is undertaking for Revere, Massachusetts, particularly the Point of Pines, Revere Beach and Backshore areas.

It is my hope that the study could be accelerated to reduce the potential damage of another devastating storm before the work is completed. In order to accomplish this, I would support increasing the funding level for the studies of the Point of Pines, Revere Beach and Backshore areas, if you felt that your division had the capability to use the additional funding in fiscal year 1983. Specifically, I would want to know how much additional money, if any, you could successfully expend on any or all of these areas.

Let me reiterate my concern for the safety of the Revere Shoreline and my commitment to assist the Corps and the city of Revere with its longterm protection.

I await your response and look forward to working with you.

Sincerely,



EDWARD J. MARKEY
Member of Congress

EJM/kgs

Address reply to: Room 2100A
John F. Kennedy Federal Building
Boston, Massachusetts 02203 ~

NICHOLAS MAVROULES
6TH DISTRICT, MASSACHUSETTS

COMMITTEES:
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SMALL BUSINESS

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10 WELCOME STREET
HAVERHILL, MA 01830
(617) 372-3461

TOLL FREE WITHIN
MASSACHUSETTS
(800) 272-8730

February 25, 1986

Colonel Thomas A. Rhen
Division Engineer
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA. 02254-9149

Dear Colonel Rhen:

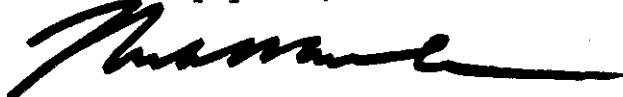
I wish to express my support for continued study of the flood reduction in Lynn, Saugus, Revere and Malden. Your efforts to continue to evaluate alternatives that would provide protection to this region are commendable. One of the options we discussed in December, 1985, the use of flood gates on the Saugus River, could offer a complete solution to eliminate the threat of flooding, and yet maintain both river navigation and preservation and enhancement of the Saugus Marsh.

I fully realize the effort required to determine the economic and environmental feasibility, but at a time when local communities are facing fiscal restraints, it is increasingly important for the federal government to take an active role.

Please keep me informed on the progress of this project, and if I may be of assistance do not hesitate to contact Virginia DeRosa at my Salem Office. I look forward to hearing from you in the near future.

I remain,

Sincerely yours,



Nicholas Mavroules
Member of Congress
70 Washington Street
Salem, MA. 01970

NM/vdr

March 3, 1986

Planning Division
Basin Management Branch

Honorable Nicholas Mavroules
House of Representatives
Washington, D.C. 20515

Dear Mr. Mavroules:

Thank you for your support of the flood damage reduction study in Lynn, Saugus, Revere and Malden, expressed in your February 25, 1986 letter.

I will certainly keep you informed on the status and progress of the study, and potential solutions including the development of the Comprehensive Saugus River Flood Gate Option.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copies Furnished:
Honorable Nicholas Mavroules
Representative in Congress
70 Washington St.
Salem, MA 01970

Honorable Nicholas Mavroules
Representative in Congress
140 Union Street
Lynn, MA 01902

EDWARD J. MARKEY
7TH DISTRICT, MASSACHUSETTS

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8 April 1986

Colonel Thomas Rhen
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Colonel Rhen:

I am writing to express my strong support of the project undertaken by the U.S. Army Corps of Engineers in developing a flood damage reduction study for the Saugus River and its tributaries. This project is of great importance to the cities of Revere, Malden, Lynn and Saugus.

Presently, 4500 homes, businesses, and industries are adversely affected by tide water which causes riverbanks to overflow and floods low lying areas bordering marshlands.

Given the history of severe flooding and extensive property damage to local businesses and residences in these communities, I urge you to complete this study and continue development of a comprehensive flood control plan.

This is a project that I fully support and one that will benefit the the citizens of Revere, Malden, Saugus and Lynn.

Sincerely,



EDWARD J. MARKEY
Member of Congress

EJM/shl
cc: Mayor Colella
David Castagnetti



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

February 20, 1987

Planning Division
Basin Management Branch

Honorable Edward J. Markey
House of Representatives
Washington, DC 20515

Dear Mr. Markey:

The Saugus River and Tributaries, Flood Damage Reduction Study in Lynn, Malden, Revere, and Saugus, is in the process of initiating the Federal and state environmental review of alternative flood damage reduction options. Mr. Scott H. Leabman, your staff assistant, has requested that I notify him of the coordination meetings which initiate this review process. Also, he requested copies of the Project Correspondence and Project Information binders on this study which will be used and kept updated by study participants as the study progresses.

This is to advise you that both of these working documents have been sent and he will be notified of the meetings.

I appreciate your continued support of this investigation and the interest and help provided by Mr. Leabman.

If you have any questions, please feel free to call me at (617) 647-8220. Mr. Leabman may also wish to contact Mr. Robert G. Hunt, the Project Manager, at (617) 647-8216.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copies Furnished:

Honorable Edward J. Markey
Representative in Congress
2100A John F. Kennedy Building
Boston, MA 02203



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

February 20, 1987

Planning Division
Basin Management Branch

Honorable Nicholas Mavroules
House of Representatives
Washington, DC 20515

Dear Mr. Mavroules:

The Saugus River and Tributaries, Flood Damage Reduction Study in Lynn, Malden, Revere, and Saugus, is in the process of initiating the Federal and state environmental review of alternative flood damage reduction options. Ms. Virginia A. DeRosa, your staff assistant, has requested that I notify her of the coordination meetings which initiate this review process. Also, she requested copies of the Project Correspondence and Project Information binders on this study which will be used and kept updated by study participants as the study progresses.

This is to advise you that both of these working documents have been sent and she will be notified of the meetings.

I appreciate your continued support of this investigation and the interest and help provided by Ms. DeRosa.

If you have any questions, please feel free to call me at (617) 647-8220. Ms. DeRosa may also wish to contact Mr. Robert G. Hunt, the Project Manager, at (617) 647-8216.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copies Furnished:

Honorable Nicholas Mavroules
Representative in Congress
70 Washington St.
Salem, MA 01970

Honorable Nicholas Mavroules
Representative in Congress
140 Union Street
Lynn, MA 01902



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

March 26, 1987

Planning Division
Basin Management

Honorable Edward M. Kennedy
United States Senate
Washington, D.C. 20510

Dear Senator Kennedy:

The New England Division, Corps of Engineers has submitted the enclosed Environmental Notification Form (ENF) for the Saugus River and Tributaries Flood Damage Reduction Study on behalf of the communities of Lynn, Malden, Revere, and Saugus, Massachusetts.

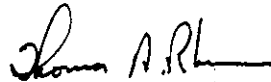
The preferred preliminary plan includes floodgates on the Saugus River tied into shorefront protection along Revere Beach, Lynn Harbor and Lynn Beach. This estimated \$40 million plan would protect 5000 residential, public, commercial and industrial buildings and several major arteries used by north shore commuters.

The State is presently initiating an environmental review which is required before the final recommendations can be made. This process includes a thorough review of alternative plans and their impacts. It also provides the public one of many opportunities to voice concerns during the planning period.

Comments on the ENF, concerning potential environmental impacts that are likely to be significant, are due by April 15, 1987. They should be sent directly to the Secretary of Environmental Affairs, 100 Cambridge Street, Boston, Massachusetts, 02202, Attention: MEPA Unit, referencing the project by name and its EOE #6497. A Scoping meeting will be held at Revere High School, School Street, Revere, Massachusetts on Tuesday, April 7, 1987 from 3:00 - 5:00 p.m.

I appreciate your interest in this study. If you have any questions, please feel free to call me at (617) 647-8220. Mr. Robert G. Hunt, the Project Manager (647-8216) can be contacted for additional information. The MEPA contact person for this project is Mr. David Shepardson. He can be reached at 727-5830.

Sincerely,



Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Enclosure

Copy Furnished:
Honorable Edward M. Kennedy
United States Senator
2400A JFK Federal Building
Boston, Massachusetts 02203

SIMILAR LETTER SENT TO:

Honorable Edward M. Kennedy
United States Senate
Washington, D.C. 20510

Honorable Edward M. Kennedy
United States Senator
2400A JFK Federal Building
Boston, Massachusetts 02203

Honorable John F. Kerry
United States Senate
Washington, D.C. 20510

Honorable John F. Kerry
United States Senator
3220 Transportation Building
10 Park Plaza
Boston, Massachusetts 02116

Honorable Nicholas Mavroules
House of Representatives
Washington, D.C. 20515

Honorable Nicholas Mavroules
Representative in Congress
ATTN: Ms. Virginia DeRosa
70 Washington Street
Salem, Massachusetts 01970

Honorable Nicholas Mavroules
Representative in Congress
140 Union Street
Lynn, Massachusetts 01902

Honorable Edward J. Markey
House of Representatives
Washington, D.C. 20515

Honorable Edward J. Markey
Representative in Congress
ATTN: Mr. Scott H. Leabman
2100A JFK Federal Building
Boston, Massachusetts 02203

NICHOLAS MAVROULES
6TH DISTRICT, MASSACHUSETTS

COMMITTEES:
ARMED SERVICES
SMALL BUSINESS

CHAIRMAN:
SUBCOMMITTEE ON
PROCUREMENT, INNOVATION AND
MINORITY ENTERPRISE DEVELOPMENT

WASHINGTON OFFICE:
2432 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-8020

Congress of the United States
House of Representatives
Washington, DC 20515

DISTRICT OFFICES:
70 WASHINGTON STREET
SALEM, MA 01970
(617) 746-5800

140 UNION STREET
LYNN, MA 01902
(617) 599-7105

10 WELCOME STREET
HAVERHILL, MA 01830
(617) 372-3461

TOLL FREE WITHIN
MASSACHUSETTS
(800) 272-8730

April 13, 1987

Colonel Thomas A. Rhen
Division Engineer
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA. 02254-9149

Dear Colonel Rhen:

I write at this time to reiterate my support for the proposed flood damage reduction plan for the Saugus River and Tributaries on behalf of the communities of Lynn, Saugus, Revere and Malden, Massachusetts.

I must concur that the preliminary plan that incorporates the use of floodgates on the Saugus River tied into shorefront protection along Revere Beach, Lynn Harbor and Lynn Beach would offer the maximum protection to the 5,000 residential, public, commercial and industrial buildings and several major arteries in this area.

I would also like at this time to commend Mr. Robert Hunt the Project Engineer and his staff for the fine job that has been done on this project. Mr. Hunt has exhibited his knowledge and complete understanding of the problems in the area and his thorough exploration of the alternatives and their impact on the environment has been well taken.

Once again, please keep me informed on the progress of this project, and I look forward to meeting with you in the near future to further discuss mutual concerns. In the interim if I may be of assistance contact Virginia DeRosa at my Salem Office. I remain,

Sincerely yours,



Nicholas Mavroules
Member of Congress
70 Washington Street
Salem, MA. 01970

NM/vdr

NICHOLAS MAVROULES
6TH DISTRICT, MASSACHUSETTS

COMMITTEES
ARMED SERVICES
SMALL BUSINESS

CHAIRMAN
SUBCOMMITTEE ON
PROCUREMENT, INNOVATION AND
MINORITY ENTERPRISE DEVELOPMENT

WASHINGTON OFFICE
2432 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-8020

Congress of the United States
House of Representatives
Washington, DC 20515

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70 WASHINGTON STREET
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(617) 745-5800

140 UNION STREET
LYNN, MA 01902
(617) 599-7105

10 WELCOME STREET
HAVERHILL, MA 01830
(617) 372-3461

TOLL FREE WITHIN
MASSACHUSETTS
(800) 272-6730

April 13, 1987

Mr. James S. Hoyte
Secretary of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

RE: EOE #6497- MEPA Unit


Dear Mr. Hoyte:

I am writing to concur with the New England Division, Army Corps of Engineers Environmental Notification Form (ENF) for the Saugus River and Tributaries Flood Damage Reduction Study.

After having reviewed the alternatives presented by the Corps, the preferred preliminary plan that includes floodgates on the Saugus River, tied into shorefront protection along Revere Beach, Lynn Harbor and Lynn Beach would offer the maximum protection to the 5,000 residential, public, commercial and industrial buildings and several major arteries in the area. Additionally, the Army Corps of Engineers has shown great concern in its initial efforts to deal with the environmental impact issues in this region and continues to seek further input. At the recent scoping meeting it appeared that a representative and diverse group of interests were present to offer their views and comments.

Please keep me informed as to the progress of this project, and if I may be of service please do not hesitate to contact Virginia DeRosa at my Salem Office. I remain,

Sincerely yours,



Nicholas Mavroules
Member of Congress
70 Washington Street
Salem, MA. 01970

RECEIVED

APR 16 1987

OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

MN/vdr



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

June 9, 1987

REPLY TO
Planning Division
Basin Management Branch

Honorable Nicholas Mavroules
House of Representatives
Washington, DC 20515

Dear Mr. Mavroules:

Ms. Virginia DeRosa, your staff aid, requested we notify you of the potential impact on Saugus residents if the abandoned I-95 embankment in the Saugus Marsh is removed. We are also concerned about the removal and disposition of this fill for two of our projects: the Revere Beach Erosion Control Project which would re-nourish Revere Beach, and the Saugus River and Tributaries, Flood Damage Reduction Study in Lynn, Malden, Revere and Saugus.

Analysis of existing physical and hydraulic conditions of the Revere/Saugus Marsh indicated that complete removal of the I-95 embankment fill would raise tidal flood elevations in the Seaplane Basin and East Saugus areas from about one-half to one foot. To maintain the existing tidal flood protection provided by the I-95 embankment, the fill could be removed to a berm with a top elevation at +11 feet N.G.V.D. (i.e., within 4 to 6 feet of the irregular marsh surface) and a top width of 75 feet.

If you have any questions, please feel free to call me at (617) 647-8220. Ms. DeRosa may also wish to contact Mr. Robert G. Hunt, the Project Manager of the Saugus River Flood Study, at (617) 647-8216.

Sincerely,

Thomas A. Rhen
Colonel Corps of Engineers
Division Engineer

Copies Furnished:
Honorable Nicholas Mavroules
Representative in Congress
ATTN: Ms. Virginia DeRosa
70 Washington St.
Salem, Ma 01970

Honorable Nicholas Mavroules
Representative in Congress
140 Union Street
Lynn, MA 01902



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

August 23, 1988

REPLY TO
ATTENTION OF
Planning Division
Basin Management Branch

Honorable Edward J. Markey
Representative in Congress
2100A JFK Federal Building
Boston, Massachusetts 02203

Dear Mr. Markey:

Ms. Carol Lederman contacted Mr. Robert G. Hunt of my staff on August 17, 1988 requesting information on the Rowe Quarry and Pines River marsh in Revere. Enclosed is an environmental report on the marsh titled "Final Report, Wetland-Estuary Assessment for the Saugus River and Tributaries, Flood Damage Reduction Study" prepared for our flood study in Lynn, Malden, Revere and Saugus. The report identifies environmental resources in the Saugus and Pines River Estuary. This report is being used as base line information in describing and assessing these resources for alternative plans of flood protection.

Our detailed study area maps which show the floodplain in the communities also shows that the entrance to the Rowe Quarry is about six to seven feet above the flood plain and at a contour Elevation of 20 ft. NGVD. Our maps do not show elevations for the interior of Rowe Quarry.

I hope this information proves helpful and I appreciate your continued support for the flood damage reduction study and the interest and help provided by your staff.

If you have any questions, please feel free to call me at (617) 647-8220. Ms. Lederman may also wish to contact Mr. Hunt, the Project Manager, at (617) 647-8216.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Enclosure

Copy Furnished:

Honorable Edward J. Markey
House of Representatives
Washington, DC 20515

STATE LEGISLATURE



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133

ALFRED E. SAGGESE, JR.
20TH SUFFOLK DISTRICT
85 LORING ROAD
WINTHROP, MA 02152
TEL. 846-9123

Committees on
Bills in Third Reading, Vice ()
Judiciary
Ethics

July 30, 1980

ROOM 138, STATE HOUSE
TEL. 727-2396

Honorable George V. Colella
Mayor of Revere
City Hall
Revere, MA 02151

Dear Mayor Colella:

Recently, a group of our constituents from Beachmont contacted my office in regard to improvements to the Marsh-land and waterways of the Belle Isle area.

The residents of the area adjoining the marsh have chronic and serious problems with flooding, insects, and rats. These pose a health hazard and should, by themselves, initiate some action. Furthermore, Belle Isle Inlet and its adjoining waterways are in need of dredging as the water levels have added to the flooding problems and made the Beachmont Yacht Club virtually inaccessible by boat.

I have been in contact with the Department of Environmental Quality Engineering to investigate the possibility of having Belle Isle dredged in the near future. May I suggest that you, as Mayor of Revere, contact Colonel Max Scheider of the Army Corps of Engineers to initiate a possible program of flood control and waterway clearance for the area.

I am looking forward to hearing from you regarding the problems of this area.

With every good wish, I remain

Sincerely,

Alfred E. Saggesse, Jr.

ALFRED E. SAGGESE, JR.
State Representative

AES:jw

cc Miss Mabel Woodcock
126 Crystal Avenue
Revere, MA 02151

Mr. Robert Foy
135 Crystal Avenue
Revere, MA 02151

Fred Milton
Commodore
Beachmont Yacht Club
Revere, MA 02151



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES

STATE HOUSE, BOSTON 02133

VICE CHAIRMAN, STATE ADMINISTRATION

ALFRED E. SAGGESE, JR.
20TH SUFFOLK DISTRICT
95 LORING ROAD
WINTHROP, MA 02152
TEL. 846-9123

Other Committees:
Post Audit and Oversight
Personnel and Administration
ROOM 489B, STATE HOUSE
TEL. 722-2017

April 29, 1986

Colonel Thomas Rhen
Division Engineer
Corps of Engineers
424 Trapelo Road
Waltham, MA 02254

Dear Colonel Rhen:

I am writing to voice my strong support for the Flood Damage Reduction Study undertaken by your office in the communities of Revere, Lynn, Saugus and Malden. You and your staff have conducted a detailed investigation of the flood problem and presented several remedial alternatives.

As you proceed into the final selection phase, please be assured that I am prepared to assist you at the legislative level. I will work to insure that you receive ample funding.

If I can be of assistance to you in this or any other matter, please feel free to call upon me.

With kind regards, I am

Sincerely,


ALFRED E. SAGGESE, JR.
STATE REPRESENTATIVE

AES:as

MAY 21 1986

Planning Division
Basin Management Branch

Mr. Alfred E. Saggese, Jr.
State Representative
House of Representatives
State House
Boston, MA 02133

Thank you for your strong letter of support dated April 29, 1986 for the Flood Damage Reduction Study, Saugus River and Tributaries in Lynn, Malden, Revere and Saugus, Massachusetts.

Your letter advising us of your assistance at the State legislative level is appreciated. However, before we complete extensive planning, including costly environmental studies, we need to know that the non-Federal share of potential project costs, e.g. 35% of a \$20 to 40 million project, would be available before construction of such a project.

I also appreciate your staff's interest demonstrated by Ms. Ann Sullivan at the briefing with Revere officials on April 8, 1986. As explained, three options are being considered to protect up to 4,500 residents and businesses in the region. There appears to be considerable support for the regional or comprehensive plan including flood gates on the Saugus River tied into shorefront protection along Revere Beach and Lynn Harbor. However, before a decision is made to recommend any particular option for detailed study, we need to determine the preliminary economic and environmental feasibility of these options. This work is scheduled to be completed this fall, followed by extensive public input and ultimately reaching a decision in December.

If the comprehensive plan is selected for detailed study then extensive modeling and environmental sampling of the Saugus River estuary and other tasks would follow to determine impacts, mitigation and project features. The final feasibility report should be under review in about three years. Project review, Congressional authorization, and final design may require an additional three years before construction funds are required. Your assistance throughout this process will assure that your constituent's are fully aware of plans being considered. I will certainly keep you informed on the status of the study.

If you have any questions, please feel free to call me at 617/647-8220. Mr. Robert G. Hunt is the Project Manager and can be reached at 617/647-8216.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

CF:
Mr. Alfred E. Saggese, Jr.
State Representative
95 Loring Road
Winthrop, MA 02254



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE DEPARTMENT

STATE HOUSE • BOSTON 02133

MICHAEL S. DUKAKIS
GOVERNOR

October 10, 1986

Colonel Thomas A. Rhen
Division Engineer
Corps of Engineers
424 Trapelo Road
Waltham, MA 02254

Dear Colonel Rhen:

Thank you for your recent letter to me concerning an Update Report on cooperative projects currently underway with the New England Division, U.S. Army Corps of Engineers.

Your involvement in Massachusetts is extensive, far-reaching and contributes greatly toward resolving a variety of problems.

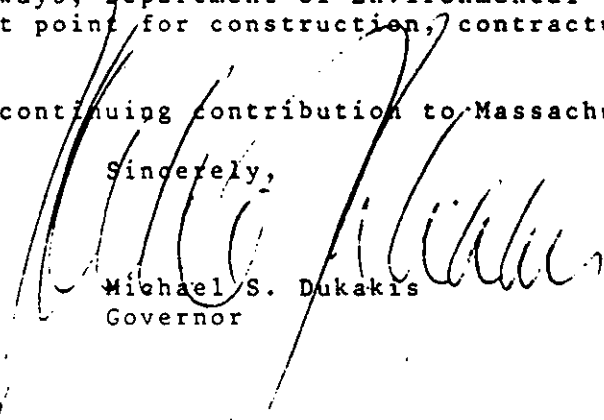
Upon reviewing the Report, I noted the diversity of recipients at both the state and local levels that benefit from the Corps work. Also, I am aware of the coordination agreements between the Federal Government and recipient that must precede project development.

To assist in the coordination and communication elements of our mutual relationship and expedite state involvement in Corps initiatives, I am designating Richard F. Delaney, Director of the Coastal Zone Management Office as the contact point for matters involving planning, permitting and policy.

Further, I am designating John J. Hannon, P.E. Chief Engineer in the Division of Waterways, Department of Environmental Management as the contact point for construction, contractual and operational matters.

Thank you for your continuing contribution to Massachusetts.

Sincerely,


Michael S. Dukakis
Governor

MSD/JJH/RFD:dc



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

March 9, 1987

REPLY TO
ATTENTION OF
Planning Division
Basin Management Branch

Mr. Steven V. Angelo
State Representative
State House
Boston, MA 02133

Dear Mr. Angelo:

We are in the process of initiating the Federal and state environmental review of alternative flood damage reduction options for the Saugus River and Tributaries, Flood Damage Reduction Study in Lynn, Malden, Revere, and Saugus. Ms. Michelle C. Nadeau, your legislative assistant, has requested that I notify her of future coordination meetings on this study including meetings for this review process. Also, she requested copies of the Project Correspondence and Project Information binders on this study which will be used and kept updated by study participants as the study progresses.

This is to advise you that both of these working documents have been sent and she will be notified of the meetings. Enclosed is a brochure on the study for your information.

I appreciate your support of this investigation and the interest of Ms. Nadeau.

If you have any questions, please feel free to call me at (617) 647-8220. Ms. Nadeau may also wish to contact Mr. Robert G. Hunt, the Project Manager, at (617) 647-8216.

Sincerely,


Stanley G. Murphy
MAJOR, Corps of Engineers
Acting Division Engineer

Enclosure as stated



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

March 12, 1987

Planning Division
Basin Management Branch

Mr. Alfred E. Saggese, Jr.
State Representative
House of Representatives
State House
Boston, Massachusetts 02133

Dear Mr. Saggese:

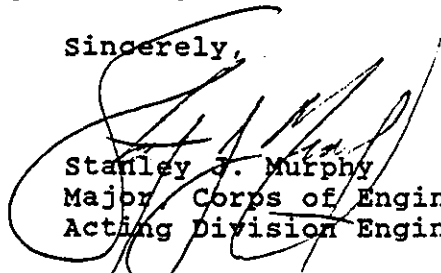
In the temporary absence of Colonel Thomas A. Rhen, I am writing to inform you that we are in the process of initiating the Federal and State environmental review of alternative flood damage reduction options for the Saugus River and Tributaries, flood Damage Reduction Study in Lynn, Malden, Revere, and Saugus. Ms. Ann Sullivan, your legislative assistant, has requested that I notify her of future coordination meetings on this study including meetings for this review process. Also, she requested copies of the Project Correspondence and Project Information binders on this study which will be used and kept updated by study participants as the study progresses.

This is to advise you that both of these working documents have been sent and she will be notified of the meetings. Enclosed is a brochure on the study for your information.

I appreciate your support of this investigation and the interest of Ms. Sullivan.

If you have any questions, please feel free to call me at (617) 647-8222. Ms. Sullivan may also wish to contact Mr. Robert G. Hunt, the Project Manager, at (617) 647-8216.

Sincerely,


Stanley J. Murphy
Major, Corps of Engineers
Acting Division Engineer

Enclosure



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

March 27, 1987

Planning Division
Basin Management

Honorable John C. McNeil
Massachusetts House of Representatives
State House
Boston, Massachusetts 02113

Dear Mr McNeil:

The New England Division, Corps of Engineers has submitted the enclosed Environmental Notification Form (ENF) for the Saugus River and Tributaries Flood Damage Reduction Study on behalf of the communities of Lynn, Malden, Revere, and Saugus, Massachusetts.

The preferred preliminary plan includes floodgates on the Saugus River tied into shorefront protection along Revere Beach, Lynn Harbor and Lynn Beach. This estimated \$40 million plan would protect 5000 residential, public, commercial and industrial buildings and several major arteries used by north shore commuters.

The State is presently initiating an environmental review which is required before the final recommendations can be made. This process includes a thorough review of alternative plans and their impacts. It also provides the public one of many opportunities to voice concerns during the planning period.

Comments on the ENF, concerning potential environmental impacts that are likely to be significant, are due by April 15, 1987. They should be sent directly to the Secretary of Environmental Affairs, 100 Cambridge Street, Boston, Massachusetts, 02202, Attention: MEPA Unit, referencing the project by name and its EOE #6497. A Scoping meeting will be held at Revere High School, School Street, Revere, Massachusetts on Tuesday, April 7, 1987 from 3:00 - 5:00 p.m.

I appreciate your interest in this study. If you have any questions, please feel free to call me at (617) 647-8220. Mr. Robert G. Hunt, the Project Manager (647-8216) can be contacted for additional information. The MEPA contact person for this project is Mr. David Shepardson. He can be reached at 727-5830.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Enclosure

SIMILAR LETTER SENT TO:

Honorable Walter J. Boverini Massachusetts Senate State House Boston, Massachusetts 02133	Represents Lynn and Saugus
Honorable John A. Brennan, Jr. Massachusetts Senate State House Boston, Massachusetts 02133	Malden
Honorable Francis D. Doris Massachusetts Senate State House Boston, Massachusetts 02133	Revere and Saugus
Honorable Steven V. Angelo Massachusetts House of Representatives ATTN: Ms. Michelle C. Nadeau State House Boston, Massachusetts 02133	Lynn and Saugus
Honorable Vincent Lozzi Massachusetts House of Representatives State House Boston, Massachusetts 02133	Lynn
Honorable Thomas W. McGee Massachusetts House of Representatives State House Boston, Massachusetts 02133	Lynn
Honorable Michael J. McGlynn Massachusetts House of Representatives State House Boston, Massachusetts 02133	Malden
Honorable John C. McNeil Massachusetts House of Representatives State House Boston, Massachusetts 02133	Malden
Honorable William Reinstein Massachusetts House of Representatives State House Boston, Massachusetts 02133	Revere and Malden
Honorable Alfred E. Saggese, Jr. Massachusetts House of Representatives ATTN: Ms. Ann Sullivan State House Boston, Massachusetts 02133	Revere

FEDERAL AGENCIES



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
P.O. BOX 1518
CONCORD, NEW HAMPSHIRE 03301

Colonel Carl B. Sciple
Division Engineer
U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts 02254

JAN 25 1983

Dear Colonel Sciple:

This planning-aid letter is intended to aid your study planning efforts for the development of flood control measures at Revere Beach Backshore in the Town of Revere, Suffolk County, Massachusetts. It has been prepared under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.).

We understand that in addition to nonstructural measures, the following structural options are being considered:

Reaches A-D (13,700 ft.)

Revere Beach from Eliot Circle to Carey Circle with the prime areas for flood control being the Wonderland area, Reach B (4,130 ft.) and North Revere Beach, Reach D (3,080 ft.). While no structural measures are specifically planned for Reach A and C, the beach building option could carry over into these areas.

1. Beach building, up to 600 ft. wide.
2. Rock revetment up to 60 ft. wide along existing seawall with or without a concrete wall or earthen dike between Ocean Avenue and Revere Beach Boulevard.

Reach E (1,080 ft.) and Reach F (400 ft.)

1. Earthen dike along Lynnway from Carey Circle to North Shore Road (Rt. 1A), and from Rt. 1A to bank of Pines River.

Reach G, H, I (4,500 ft.)

1. Earthen dike with rock revetment (30-40 ft. wide) along Mills Avenue and Rt. 1A infringing on the intertidal area of the Pines River.
2. Concrete wall instead of earthen dike.

3. Raise Mills Avenue and Rt. 1A.

Reach J (2,300 ft.)

1. Earthen dike or concrete wall along the old narrow gage railroad bed from Rt. 1A to Oak Island.
2. Concrete wall along Rt. 1A.
3. Raise Rt. 1A.

Reach K (2,700 ft.)

1. Earthen dike or concrete wall along either the west or east side of the Boston and Maine Railroad tracks from Oak Island to high ground in the vicinity of Revere Street.
2. Concrete wall along Rt. 1A.
3. Raise Rt. 1A.

The Revere Beach area (Reaches A-D) supports a population of soft-shelled clams in the intertidal zone and surf clams in the offshore area. Neither of these resources support significant recreational and/or commercial fishery activity. Beach building in this area would destroy existing benthic organisms but this is expected to be short term as the new beach would be recolonized in a relatively short time. The greatest potential for damage would be the migration of a large amount of sand to other areas, such as Lynn Harbor which has extensive shellfish beds and is an important wintering area for black ducks.

A rock revetment along the existing seawall in Reaches A-D would have negligible impacts upon fish and wildlife resources and would be the preferred option from a fish and wildlife viewpoint.

The proposed earthen dike or concrete wall between Ocean Avenue and Revere Beach Boulevard and in Reaches E and F would disrupt and possibly destroy some backyard songbird habitat. Adverse impacts could be minimized if the proposed earthen dike is seeded to grass and planted with trees and shrubs to replace habitat for such songbirds as robins, sparrows, catbirds, and others.

The backshore area along the Pines River Estuary and saltmarsh, Reaches G-K, support significant fish and wildlife resources. There are both soft-shelled clams and blue mussels within the intertidal area of the Pines River, and the river itself is an important spawning area for winter flounder. The large expanse of saltmarsh, primarily Spartina patens in the project area, contributes to the overall productivity of the estuary and is important habitat for such wildlife species as Black ducks,

Clapper rails, Sharp-tailed sparrows, Seaside sparrows, Snowy egrets, Black-crowned night herons and a variety of shorebirds. We are placing this saltmarsh in Resource Category 2.¹

The proposed earthen dike in Reaches G-I would infringe on the intertidal area of the Pines River and would probably destroy and/or degrade some of the shellfish beds in this area. In addition, it would destroy a portion of the saltmarsh which exists in narrow strips and patches along these reaches. A concrete wall in place of the earthen dike would not be as detrimental since it would reduce the area of construction in the intertidal zone.

An earthen dike located along the old railroad grade in Reach J and to the west of the railroad tracks in Reach K would destroy approximately 4.5 acres of saltmarsh. If the dike was located to the east of the tracks in Reach K, it would destroy a portion of brackish marsh that is being rapidly colonized by the common reed, Phragmites communis. A concrete wall in place of the earthen dike would reduce the area of marsh destruction. However, the flood protection provided by either a dike or wall along these proposed alignments would tend to encourage additional loss of marsh on the landward side of the structures through continued filling and commercial development. Therefore, we do not recommend construction within or across the marsh and would oppose construction in this area.

A concrete wall along Rt. 1A in Reaches J and K would be far less destructive of wildlife habitat than a dike or wall across the marsh. However, an alternative common to all Reaches (G-K) would be to raise Mills Avenue and the southbound lane of Rt. 1A. This alternative appears to be the least destructive of fish and wildlife habitat and should be rigorously evaluated.

In order to more accurately assess the impacts of alternative project plans, the following information will need to be developed during the flood control planning process: (1) an analysis of the potential migration of sand from the beach to offshore areas, (2) refined estimates of the length, width, and alignment of earthen dikes and concrete walls, and (3) data on raising Mills Avenue and Rt. 1A, especially with regard to infringement on the intertidal zone.

¹ Section V (B), U.S. Fish and Wildlife Mitigation Policy, Federal Register, Vol. 46, No. 15, January 23, 1981, pp. 7644-7663.

We would be pleased to assist you in the various stages of project planning, and we will report on the potential impacts of your selected plan.

Sincerely yours,

Gordon E. Beckett

Gordon E. Beckett
Supervisor

November 21, 1985

Planning Division
Impact Analysis Branch

William J. Geary, Commissioner
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108
ATTN: Julia O'Brien

Dear Mr. Geary:

The Corps of Engineers has initiated a flood damage reduction study for portions of the communities of Lynn, Malden, Revere and Saugus, Massachusetts at the request of local officials. The attached pamphlet provides a general description of this study. Environmental reconnaissance studies are being accomplished as a part of the preliminary planning process. Environmental studies are being initiated at this time because the study area is perceived to be an environmentally sensitive one.

We have scheduled a series of meetings with agencies having jurisdiction or expertise related to the study area. This is to confirm telephone notification to your office that a meeting on the study will be held at the New England Division, Corps of Engineers' Theatre, 424 Trapelo Road, Waltham, MA on Tuesday, November 26 at 10:00 a.m. The purpose of the meeting will be to describe the study and receive comments on environmental and related issues that should be considered during the course of the study. If you are interested in this study, but unable to attend the scheduled meeting, we will attempt to include you in a similar meeting at an alternate time and place or meet with you separately at your convenience. If your agency does meet with us, we would appreciate a follow-up letter.

If you have any questions, please feel free to call me at 617-647-8508. Dr. Joseph Scronitz of my staff is coordinating the environmental aspects of the study, and arrangements for the meetings. He may be reached at 617-647-8518. Mr. Robert G. Hunt is the Project Manager. He can be reached at 617-647-8216. Thank you for your interest.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

Attachment

Same letter sent to the following:

William J. Geary, Commissioner
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108
ATTN: Julia O'Brian

Mr. Robert T. Tierney, Commissioner
Department of Public Works
10 Park Plaza
Boston, Massachusetts 02116
ATTN: Frank Bracaglia

Diana Ortiz - Assistant Secretary
Department of Communities & Development
100 Cambridge Street - 11th Floor
Boston, Massachusetts 02202

Evelyn F. Murphy - Secretary
Executive Office of Economic Affairs
1 Ashburton Place
Boston, Massachusetts 02108

Commissioner Paul J. Tortolani
Department of Commerce & Development
100 Cambridge Street - 13th Floor
Boston, Massachusetts 02202

Frederick Salvucci
Secretary, Executive Office of Transportation
& Construction
10 Park Plaza, Rm. 3510
Boston, Massachusetts 02116

Metropolitan Area Planning Council
Joel B. Bard, Assistant Director
110 Tremont Street
Boston, Massachusetts 02108

Mr. Sheldon Gilbert
Regional Environmental Officer
U.S. Department of H.U.D.
15 New Chardon Street
Boston, Massachusetts 02114

Mr. David Clark
Environmental Compliance
North Atlantic Region
National Park Service
15 State Street
Boston, Massachusetts 02109

Superintendent - Saugus Iron Works
National Historic Society
244 Central Street
Saugus, Massachusetts 01906

Mr. Bill Patterson
Department of the Interior
1500 Custom House
165 State Street
Boston, Massachusetts 02109

Mr. James A. Walsh - Division Administrator
Federal Highway Administration
Transportation Systems Center
55 Broadway - 10th Floor
Cambridge, Massachusetts 02142

Mr. Edward B. Hassel - Regional Director
Federal Railroad Administration
Transportation Systems Center
55 Broadway - 10th Floor
Cambridge, Massachusetts 02142

Mr. Ivan James - District Chief
U.S. Geological Survey
1500 Causeway Street, Suite 1309
Boston, Massachusetts 02114

Mr. Kaselis - Environmental Specialist
Commander (DPL) First Coast Guard District
150 Causeway Street
Boston, Massachusetts 02114-1396

Mr. John Willey
First Coast Guard District
150 Causeway Street
Boston, Massachusetts 02114-1396

November 27, 1985

Planning Division
Impact Analysis Branch

Mr. Tom Bigford
Chief, Habitat Conservation Branch, NMFS
State Fish Pier
Gloucester, Massachusetts 01930

Dear Mr. Bigford:

Thank you for sending Sue Helle of your staff to meet with members of mine on November 15 concerning the flood damage reduction study for portions of the communities of Lynn, Malden, Revere and Saugus, Massachusetts. This meeting, to describe the study, now in preliminary planning, and to initiate agency coordination, by requesting comments on environmental and related issues that should be considered during the course of the study, yielded valuable information to us.

We would appreciate receiving a letter from your office, as a follow-up to the meeting, with particular emphasis on any concerns your agency has at this time. If you have any questions, please feel free to call me at FTS 839-7508. Dr. Joseph Horowitz of my staff is coordinating the environmental aspects of the study. He may be reached at FTS 839-7518. Mr. Robert Hunt is the Project Manager. He may be reached at FTS 839-7216. Thank you for your interest.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

Same letter sent to the following:

Mr. Tom Bigford
Chief, Habitat Conservation Branch, NMFS
State Fish Pier
Gloucester, Massachusetts 01930

Ms. Betsy Higgins, Mail Code GRER
U.S. Environmental Protection Agency
Region 1, JFK Building
Boston, Massachusetts 02203

Mr. Larry Brill, Mail Code WR/WQ/PS
Chief, Planning and Standards Section
U.S. Environmental Protection Agency
Region 1, JFK Building
Boston, Massachusetts 02203



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Management Division
Habitat Conservation Branch
State Fish Pier
Gloucester, MA 01930

December 2, 1985 F/NER74: SMR

Mr. Robert G. Hunt
Planning Division
U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, MA 02254-9149

Dear Mr. Hunt:

This is in reference to the flood damage reduction study for the Saugus River and tributaries at Lynn, Malden, Revere, and Saugus, Massachusetts. This letter serves as a follow-up to our comments at the early planning meeting held on November 15, 1985.

Three basic options are being investigated to alleviate flooding in these areas. Option 1 entails the construction of up to 11 miles of earth dike or concrete wall to prevent tidal waters from overflowing the shorefront and riverbanks. Pumping stations and other measures would be designed to relieve drainage problems within diked areas. Option 2 encompasses nonstructural solutions such as the development of flood preparedness plans and floodproofing of individual buildings. Option 3 involves the construction of a tidal barrier either at the mouth of the Saugus or the Pines River or upstream on the Pines River at the B & M Railroad Bridge. About two miles of structures would connect the barrier to high ground; a pumping station would provide additional flood protection.

Information is currently being gathered to assess the environmental impacts associated with the implementation of each of these alternatives. This environmental assessment or impact statement should consider the potential effects of the many other federal projects currently being considered for the Revere area. These include the Pines and Saugus Rivers navigation projects, the Revere beach erosion control project, a concrete fabrication site at Lynn Harbor for the Third Harbor Tunnel, and the removal of the I-95 fill in the Saugus/Pines marsh. These and other proposed projects could affect the success of flood reduction plans or their environmental impacts.

Because of the potential for considerable aquatic habitat change with construction of Option 1 or 3, we recommend that a survey of fishery resources and water quality parameters be conducted. We believe that this baseline of information is essential to estimate potential effects during the decision-making phase of this project and to monitor effects after project implementation. Specific parameters to be assessed include the following;



Water quality: Survey stations should be established within both the Saugus and Pines Rivers; parameters should be measured seasonally and over various tidal ranges. Assays should include temperature, salinity, dissolved oxygen, biological oxygen demand, and fecal coliforms.

Shellfish: This survey should estimate total acreage of intertidal mudflat habitat within both the Saugus and Pines River. A population survey estimating relative abundance and size distribution of soft shell clams (Mya arenaria) in these areas should be conducted.

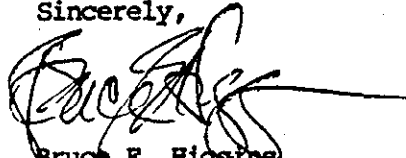
Finfish: Seine or trawl surveys should be conducted seasonally to assess species composition, relative abundance, and size distribution of finfish utilizing the Pines and Saugus Rivers. Survey stations established for water quality parameters could be utilized for this assessment. Spawning and nursery areas should be delineated if possible.

Wetlands: Acreage of salt marsh habitat within the study area should be estimated. Utilization of these areas by finfish, aquatic invertebrates, waterfowl, and mammals should be documented.

Hydrology: Existing tidal circulation patterns, flushing volumes and rates, and sedimentation rates should be established to assess the impact of the construction of a tidal barrier structure.

Overall, we will be recommending the development of a project that is the least environmentally damaging to aquatic resources. Efforts to avoid or reduce the filling of tidal wetlands, maintain tidal flushing and circulation, and minimize the disturbance of fish and shellfish populations should be pursued. For further coordination regarding this project, please contact Susan Mello at 281-3600 ext. 335 or FTS 837-9335.

Sincerely,



Bruce E. Higgins
Deputy Branch Chief



U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION ONE
55 Broadway - 10th Floor
Cambridge, Massachusetts 02142

IN REPLY REFER TO:

HA-MA

December 3, 1985

Mr. Joseph Ignazio
Chief, Planning Division
Department of the Army
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254-9149

Dear Mr. Ignazio:

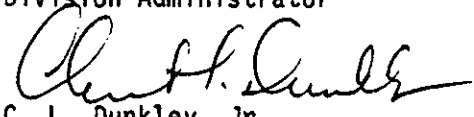
Thank you for your letter of November 21, 1985 concerning a flood damage study in Lynn-Saugus-Revere. We are sorry we were unable to attend the November 26, 1985 meeting in Waltham, however, we do have some information that you should consider during the course of your study.

The Massachusetts Department of Public Works prepared and distributed a draft EIS for a proposed Revere Beach Connector a few years ago. I believe your office may have reviewed and commented on that document. Inasmuch as we are not certain as to the DPW's current plans for that Connector, we suggest that they be contacted in that regard.

Also, the DPW has plans for disposing of the "I-95 FILL" and you may also wish to inquire about those plans. You can contact the DPW by writing to Chief Engineer Robert J. McDonagh, Massachusetts Department of Public Works, 10 Park Plaza, Boston, MA 02116.

Sincerely yours,

James A. Walsh
Division Administrator


By: C. L. Dunkley, Jr.
District Engineer



United States Department of the Interior

NATIONAL PARK SERVICE

SAUGUS IRON WORKS
NATIONAL HISTORIC SITE
244 Central Street
Saugus, Massachusetts 01906

IN REPLY REFER TO:

December 10, 1985

Mr. Joseph L. Ignazio, Chief, Planning Division
Department of the Army
New England Division, Corps. of Engineers
424 Trapelo Road
Waltham, Mass. 02254-9149

Dear Mr. Ignazio:

I regret not being able to attend your November 26 meeting regarding flood control of the Saugus River. Since the Saugus River bisects the Saugus Iron Works National Historic Site within its tidal zone, any substantial actions affecting the River also have a potential direct bearing on the park.

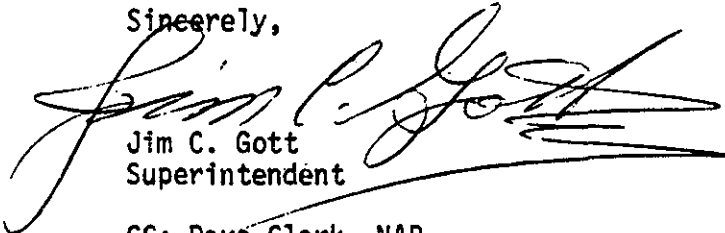
In addition to your proposal, there is a project to dredge the mouth of the river for the benefit of commercial fishing interests. Several studies also are being conducted by various groups, such as a salinity study for RESCO and the potential for reintroducing trout for sportfishing.

Not only are these activities being waged independently, some might be in direct conflict with others.

In any event, I would welcome the opportunity to meet with you and/or your staff during these early planning stages. If convenient, I would like to invite you to Saugus so we can also incorporate a visit to river sites if needed.

Please let me know if this is feasible. My phone number is 233-0050 and address is on the letterhead.

Sincerely,



Jim C. Gott
Superintendent

CC: Dave Clark, NAR

Hint



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
P.O. BOX 1518
CONCORD, NEW HAMPSHIRE 03301

Mr. Joseph Ignazio, Chief
Planning Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

FEB 4 1986

Dear Mr. Ignazio:

This is in response to Mr. Hunt's request that we identify questions, concerns and study needs associated with your flood control study in Revere, Lynn, Malden and Saugus, Massachusetts.

We have identified a partial listing of questions, concerns and study needs with respect to a tidal barrier dam being located on the Saugus River near the General Edwards Bridge. As your study progresses and we learn more about the various plans, we will probably identify additional concerns and drop or refine existing ones.

If you have not already done so, we suggest that you obtain maps, charts, drawings and other historical documents to identify the extent (acreage) of the original and existing wetlands and floodplains by cover type, if possible, in the study area. This data would be useful for contrasting the original undeveloped wetland-floodplain with the existing condition and to determine which cover types have been most extensively impacted. It would be useful if this cover type information could be displayed for the 10, 50, 100, 500 year and standard project flood boundaries. If possible, specific ownership and boundaries should be determined for lands within the study area.

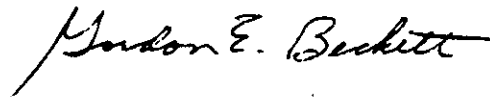
Since the tidal barrier would effectively establish the Revere-Saugus marsh as a freshwater interior storage area during storm events, detailed information will be necessary to establish baseline (existing) water quality conditions during the various tidal phases on a seasonal or monthly basis for all segments of the study area. Study parameters should include salinity, dissolved oxygen, temperature, pH, currents, mixing patterns and coliform bacteria. Data on the biological resources of the estuary should include the temporal and spatial distribution of the major life stages of finfish, birds, mammals, reptiles and amphibians. Similar data would be necessary for the ecologically or commercially important invertebrate resources including shellfish and perhaps the dominant phyto- and zooplankton communities since they may be susceptible to salinity and other water quality parameters. It may be necessary to develop salinity tolerance (acute and chronic) data for various life stages of aquatic and wetland species utilizing the estuary, if it is not currently available. We have not attempted to identify sampling frequency, study duration, sampling points, species or other detailed aspects of any study program. These details would need to be refined as the study progresses.

If a precondition for the project is that absolutely no change in the existing hydrologic regime within the estuary would be allowed during non-flood events, could a barrier dam be designed and operated within this constraint? What physical changes would be required in the river/estuary to guarantee these operating constraints? If these constraints cannot be met, what hydrologic changes would likely occur during normal tide stages? What agency would be responsible for operating and maintaining the barrier? How much and what type of land acquisition would be contemplated for the 10, 50, 100, 500 and standard project flood boundaries? What are the potential scenarios for project operation? Could the project ever be operated in such a manner that the storage area could be converted into a non-tidal or in the worst case, a freshwater system?

If the project was constructed, how many acres of flood prone land would be available for development or for conversion to more intense development. Would the existing 10, 50, 100, or 500 year floodplain boundaries be changed as a result of the project?

If you should have any questions concerning the issues identified in this letter, please feel free to contact Mr. Vern Lang of this office at FTS 834-4797.

Sincerely yours,

A handwritten signature in cursive script, reading "Gordon E. Beckett". The signature is written in dark ink and is positioned above the typed name and title.

Gordon E. Beckett
Supervisor
New England Area



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J. F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

June 17, 1986

Joseph Ignazio, Chief
Planning Division
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Mr. Ignazio:

Thank you for the opportunity to comment on the Corps' proposed "Flood Damage Reduction Study - Saugus River and Tributaries," located in the communities of Lynn, Malden, Revere, and Saugus in Essex, Middlesex, and Suffolk Counties, Massachusetts.

As you are aware, EPA has participated in several interagency meetings for the proposed project including the November 15, 1985, and January 8, 1986, meetings at the Corps. Based on these meetings we understand that three basic options or combination of options for flood damage reduction are being studied. Option one, Structural Local Protection Plans, would separately protect the Revere Beach Backshore, Northgate, Town Line Brook, East Saugus, and Lynn with approximately 12.5 miles of earthen dikes or concrete walls to prevent coastal waters from flowing over the shorefront and riverbanks. Pumping stations and other measures would be required with option one to relieve drainage problems within areas protected by the structures. Option two, Nonstructural Plans, would reduce flood damage through flood preparedness plans and floodproofing of buildings. It is initially believed that 10% of the structures in the floodplain could be protected by raising buildings, providing water tight enclosures for utilities, sealing windows and doors with waterproof closures and other measures. Option three, Comprehensive Plan, would include a floodgate structure at the mouth of either the Saugus or Pines River (or alternate alignment) and two miles of structure to link the floodgate structure to high ground. A pump station would also be included in option three for additional protection. The Saugus and Pines Rivers estuaries would be preserved as natural storage areas for interior runoff. It is believed that option three would protect up to 4,500 homes and businesses in all six flood-prone areas.

We believe from a Section 404 and overall environmental perspective, option three with a floodgate structure near the General Edwards Bridge is the most promising action. Minimal wetland loss and maximum flood protection appear to be achievable while maintaining existing hydrological conditions, vegetation, fisheries, wildlife, and current

uses. Identifying the 100 year and 500 year floodplain elevations and requiring the purchase or easement acquisition of the floodway for flood retention could in the long term be an important measure in educating the public and local governments to the resource values of the Saugus and Pines River estuaries, and the need to protect the estuaries from development, unregulated fill, and dumping activities. We support the continued study of no action, option one and option two for comparative alternative and environmental analyses under Section 404 and NEPA, but believe these alternatives could result in lower flood protection and higher environmental costs.

EPA's main concern with the proposed project is the protection of the existing saltmarsh estuary. As you know, the Pines River Watershed and the Saugus River Watershed, including adjacent wetlands and direct tributary systems, are included as a priority waterbody/wetland in "EPA's Priority Wetland Listing for New England." This designation as a priority waterbody/wetland is due to the high resource values (extensive mudflats and saltmarsh; anadromous fish; large population of softshell clams, and other shellfish; and, winter flounder and smelt spawning grounds) threatened by further industrial development in an already stressed ecosystem, creation of federal navigation channels, and expansion of marine facilities. Such identification makes the Saugus River and Pines River wetlands eligible for advanced identification under Part 230.80 of "EPA's Guidelines for specification of Disposal for Dredged or Fill Material" [40 CFR Part 230, also known as 404 (b)(1) Guidelines] and/or eligible for predesignation under Section 404(c).

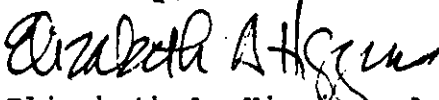
The Massachusetts Coastal Zone Management Plan recommends, "that the Saugus/Pines River Marsh be the highest priority for restriction under the state's Wetlands Restriction Programs." Unfortunately, the Massachusetts Coastal Zone Management Plan and the Massachusetts Wetland Protection Act, even in combination with federal wetland and flood protection regulations, have not been highly effective in protecting the resources of the Saugus and Pines River estuaries. In addition to unregulated fill activities and encroaching development adversely affecting the marsh area, a number of federal and federally assisted projects have been proposed that would affect the marsh. These projects include: the Revere Beach Connector Project; the North Shore Transit Improvements Project, (MBTA Blue Line Extension, Pine Station Commuter Parking, MBTA Wonderland Station and Parking Garage); Interstate Highway 95; the Revere Beach Erosion Project; the Pines River and Saugus River Navigation Channel Projects; and the possible location of the fabrication site for the Third Harbor Project.

We believe the final flood damage reduction plan should have the least environmental damage and protect the saltmarsh estuaries. Therefore, we recommend that the Corps development plan and environmental evaluation concentrate on measures to avoid or reduce filling of wetlands; maintain current drainage patterns, including tidal flushing and circulation; minimize changes in environmental parameters (i.e., turbidity, salinity, water temperature, dissolved

oxygen, pH, detritis distribution, organic/nutrient cycling, and tidal inundation); and prohibit additional development of the floodplain.

We look forward to working with you in development of the flood damage reduction plan for the Saugus River and tributaries. For further coordination regarding this project please contact Donald Cooke of my staff at 617/223-1739.

Sincerely,



Elizabeth A. Higgins, Assistant Director
for Environmental Review
Office of Governmental Relations and
Environmental Review (RGR-2203)

cc: Robert Hunt, COE
Joseph Horowitz, COE
Vern Lang, US FWS
Susan Mello, NMFS
Robert Sonnichsen, FEMA
Richard Delaney, Director, MA CZM
Sam Mygatt, MEPA
Edward Reiner, EPA (WQP-2103)

U.S. Department
of Transportation

United States
Coast Guard



Commander
First Coast Guard District

Rec'd: June 8, 1987
Capt. John Foster Williams Bldg
408 Atlantic Avenue
Boston, MA 02210-2209
Staff Symbol: (oan)
Phone: (617) 223-8338

16000

Mr. Joseph L. Ignazio
Corps of Engineers
Planning Division
424 Trapelo Road
Waltham, MA 02154

Re: Saugus River Flood Damage
Reduction Survey

Dear Mr. Ignazio:

Thank you for the opportunity to attend the scoping meeting for the referenced project. Upon the request of Mr. Joseph Horowitz of your staff I am submitting this letter to document my concerns on this subject.

Considering the large volume of barge traffic transporting volatile substances to the General Electric Research Plant on the Saugus River I feel that the clearances provided by the navigational opening of the floodgate must be as unrestrictive as possible. This opening should provide a horizontal clearance that is safe for the largest vessel transiting, and projected vessel to transit, the river. In addition, a fendering system to protect the floodgate, and vessels, when in the open position from possible collisions should be considered.

The effect that the floodgate will have on the fendering system of the General Edwards Bridge must also be considered. This should include any modifications to the fender that may be proposed if constructed in each alignment position. Any proposed changes of this nature must be reviewed by our Bridge Administrator.

I feel that it is also important to consider the impact of the lower track/slide upon which the floodgate doors will move and rest. The depth provided through the floodgate must accommodate the deepest draft vessel existing and projected to transit the river. The lower track should be constructed as close to the natural bottom as feasible, possibly with a ramp of some sort to carry the bottom contour up to the top of the track. The construction of this ramp should reduce the force of any collision enough that a vessel striking it will not be holed.

Should you wish to discuss these concerns in more detail, please do not hesitate to contact me or LTJG HAYDIN of my staff.

Sincerely,

A handwritten signature in dark ink, appearing to read "S. L. Richmond", written over a horizontal line.

S. L. RICHMOND
Captain, United States Coast Guard
By direction of the Commander,
First Coast Guard District

June 18, 1987

Planning Division
Impact Analysis Branch

Ms. Elizabeth Higgins
Assistant Director for Environmental Review
EPA - Region 1, RGR-2203
JFK Building
Boston, Massachusetts 02203

Dear Ms. Higgins:

The New England Division (NED), Corps of Engineers wishes to formally request your participation as a Cooperating Agency under NEPA in the development of the Environmental Impact Statement for the Flood Damage Reduction Study, Saugus River and Tributaries, MA. I appreciate the involvement of your staff in this study to date.

Please notify me, in writing, of your response to this request at your earliest convenience.

If you have any questions, please call me at FTS 839-7508, or Joe Horowitz, my Environmental Manager for the study, at FTS 839-7518.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

SAME LETTER SENT TO:

Mr. Tom Bigford, Chief
Habitat Conservation Branch
National Marine Fisheries Service
2 State Fish Pier
Gloucester, MA 01930

Mr. Gordon Beckett, Supervisor
Fish & Wildlife Service - Ecological Services
22 Bridge St., Ralph Pill Building, 4 th Floor
Concord, NH 03301



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149
April 28, 1987

Planning Division
NEDPL-I

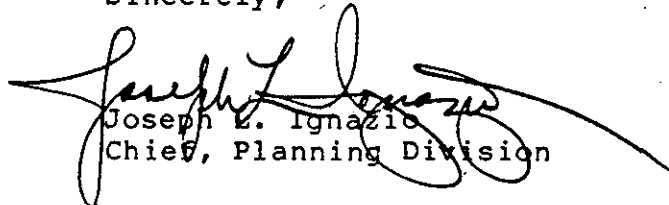
Director
Office of Federal Register
National Archives Records Administration
Washington, D.C. 20408

Dear Sir:

Enclosed please find three signed copies of the Notice of Intent for the preparation of a Draft Environmental Impact Statement for the Flood Damage Reduction Study, Saugus River and Tributaries - Lynn, Malden, Revere and Saugus, Massachusetts.

If you have any questions, please call me at FTS 839-7508 or 617-647-8508, or Mr. Robert G. Hunt, the Project Manager, at FTS 839-7216 or 617-647-8216.

Sincerely,


Joseph L. Ignazio
Chief, Planning Division

Copy Furnished:
Ms. Elizabeth Higgins
Asst. Dir. for Environ. Review
EPA, Region I, RGR-2203
JFK Building
Boston, Massachusetts 02203

DEPARTMENT OF DEFENSE

Corps of Engineers, Department of the Army

Intent To Prepare a Draft Environmental Impact Statement (DEIS) for the Flood Damage Reduction Study, Saugus River and Tributaries; Lynn, Malden, Revere and Saugus, MA

AGENCY: New England Division, U.S. Army Corps of Engineers, DOD.

ACTION: Notice of Intent to Prepare a Draft Environmental Impact Statement (DEIS).

SUMMARY: 1. *Description of action:* The proposed project would reduce damages due to tidal flooding in the communities of Lynn, Malden, Revere and Saugus, MA. The flood-affected areas are adjacent to the Saugus and Pines River estuary, as well as the coastal shorefronts in Lynn and Revere. Approximately 1700 acres of wetland are contained within the Saugus/Pines estuary. Surrounding the estuary and along the Lynn and Revere shorefronts are a mixture of residential, commercial and industrial land uses. The study area is divided into seven flood prone areas (Revere Beach Backshore, Point of Pines, North Gate, Town Line Brook, East Saugus, Lynn and Upper Saugus River and Shute Brook) for which protection of approximately 5000 residential, public, commercial and industrial buildings is being considered.

2. *Alternatives:* Three basic options for flood damage reduction are being considered.

Option 1. Four Structural Local Protection Plans—would reduce flood damages in the Revere Beach Backshore, Town Line Brook, East Saugus and Lynn areas. About 9.8 miles of dikes, floodwalls and revetment would be constructed along the edge of the estuarine wetland and the banks of the Saugus and Pines Rivers as well as along parts of the Revere Beach, Lynn Harbor and Lynn Beach shorefronts. This option would physically impact 31 acres of vegetated wetlands and 32 acres of coastal mudflats, riverbanks and river bottom.

Option 2. Nonstructural Plans—would reduce the vulnerability to flooding through flood preparedness plans and floodproofing of buildings. However, currently available information suggests that floodproofing would protect less than 5% of the structures in the floodplain if results over the entire study area are similar to those already determined for Revere.

Option 3. Regional Saugus River Flood Gate Plan—A tidal flood gate plan is being considered, to protect all seven of the flood-prone areas. The flood gates would be located at the mouth of the Saugus River. Physical features of the flood gate plan with 3.0 miles of structures would include a navigation gate and flushing gates in a 1300 foot long concrete or earth dike structure across the rivermouth. The gates would maintain both safe navigation and the natural flushing of the rivers and wetlands by remaining open until the threat of a flood. During storm tide conditions, which normally occurs up to possibly several times a year, the gates would be closed for a few hours during high tide. Shorefront features along Revere Beach, Lynn Harbor and Lynn Beach would be similar to those in Option 1. This option would physically impact 14 acres of coastal mudflats or river bottom, but no vegetated wetlands at all.

Based on initial studies, and coordination with Federal, State and local agencies and officials, it appears at the present time that Option 3—the Regional Saugus River Flood Gate Plan is the most desirable alternative from an engineering, economic, social and environmental point-of-view.

3. *Scoping process:* The Corps of Engineers held a series of five preliminary meetings with Federal, State and local agencies to introduce the study and solicit initial environmental concerns, during the period November, 1985—January, 1986.

The Corps is planning to prepare a combined Draft EIR/EIS, under the Massachusetts Environmental Policy Act (MEPA), and the National Environmental Policy Act (NEPA), respectively, for the proposed project. MEPA Scoping was initiated with the release of an *Environmental Notification Form (ENF)* signed by officials of the four affected communities and noticed in the MEPA Monitor dated March 26, 1987. Availability of the ENF was also advertised in three newspapers and by an associated press release. Over 100 copies of the ENF were mailed to agencies and individuals having interest in the study, prior to the public notification. ENF's were also provided to those requesting them based on the public notification. A Public MEPA Scoping Meeting was held at Revere High School on April 7, 1987. All recipients of the ENF were notified of the meeting and a press release was also provided to the media as a means of notification. The meeting was attended by 50-60 people. The Secretary

of Environmental Affairs of the Commonwealth of Massachusetts will issue a Scope of Work for the EIR to the Corps on April 27, 1987.

The Corps will meet with a Technical Group and Citizen Steering Committee throughout the study process to obtain feedback on the study and discuss issues as they may develop. Public meetings will also be held during the study to keep the general public informed.

The DEIS will analyze in depth potential direct and indirect impacts on the Saugus/Pines River estuary, and the Lynn and Revere shorefronts, including for example: Water quality, wetlands, fisheries, benthic organisms, wildlife, birds, open space, recreation and aesthetics. Construction and operational phase impacts will be considered, as well as cumulative and secondary impacts.

The Corps will request that the following agencies accept Cooperating Agency status for this study: National Marine Fisheries Service, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service.

4. *Scoping meeting:* The Corps plans to hold a NEPA-EIS Scoping Meeting on or about May 27, 1987 at a location to be announced within the study area. All interested agencies, organizations and the public are invited to attend this meeting. Sufficient notification will be provided.

5. *Availability.* It is anticipated that the DEIS would be made available for review in December, 1988.

ADDRESS: Questions about the proposed action and DEIS can be answered by Mr. Robert G. Hunt, Project Manager, New England Division, Corps of Engineers, 424 Trapelo Road, Waltham, MA 02254-9149. Phone: 617-647-8216, or FTS 839-7216.

Dated: April 24, 1987.

Joseph L. Ignazio,
Chief, Planning Division.

[FR Doc. 87-10338 Filed 5-6-87; 8:45 am]

BILLING CODE 3710-24-M



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J. F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

June 30, 1987

Joseph L. Ignazio
Chief, Planning Division
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

RE: Flood Damage Reduction Study
Saugus River and Tributaries, MA

Dear Mr. Ignazio:

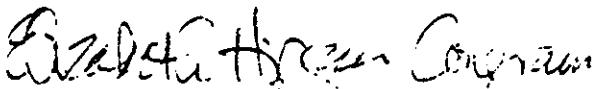
Thank you for your June 18, 1987 invitation to be a cooperating agency in the preparation of an Environmental Impact Statement (EIS) for the Flood Damage Reduction Study, Saugus River and Tributaries located in Suffolk, Middlesex and Essex Counties, Massachusetts.

EPA has recently issued guidelines to be used when regional EPA offices are involved in potential cooperating agency situations for an EIS. In accordance with these guidelines, we believe that our participation in the development of the Draft and Final EISs for this project might best be carried out through the scoping process. Therefore, we request that EPA not be named as a formal cooperative agency at this time. I have enclosed a copy of EPA's guidelines on cooperating agency status so that you may better understand how we approach these situations.

Our decision not to be a cooperating agency should not be interpreted in any way as an indication that we do not have environmental concerns associated with the implementation and long-term management of this project, or that we will not participate in the development of the environmental documents. As you know, our office has been very active in interagency meetings, in the review of preliminary project studies, and most recently in the State MEPA scoping meeting held on April 7, 1987 and in the Federal NEPA scoping meeting held on May 27, 1987. We remain committed to assisting you in the identification and assessment of the environmental impacts of the proposed flood control alternatives.

We look forward to continue working with you in development of the flood damage reduction plan for the Saugus River and tributaries. For further coordination regarding this project please contact Donald Cooke of my staff at 617/565-3426 (FTS 839-3426).

Sincerely yours,



Elizabeth Higgins Congram, Assistant Director
for Environmental Review
Office of Government Relations and
Environmental Review

Enclosure

cc: Joseph Horowitz, COE
Robert Hunt, COE
Vernon Lang, USFWS
Susan Mello, NMFS
Robert Sonnichsen, FEMA



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Habitat Conservation Branch
Water Street
Woods Hole, MA 02543

July 2, 1987

F/NER741:SM

Mr. Joseph L. Ignazio
Chief, Planning Division
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Mr. Ignazio:

This is in reference to the scoping process for the Flood Damage Reduction Study for Lynn, Malden, Revere, and Saugus, Massachusetts. This letter serves as a follow-up to our letter of December 2, 1985 that outlined specific areas for study relative to this project.

The Saugus/Pines River Estuary supports populations of valuable fishery resources such as winter flounder (Pseudopleuronectes americanus), alewife (Alosa pseudoharengus), smelt (Osmerus mordax), American eel (Anguilla rostrata) and soft shell clam (Mya arenaria). The estuary provides spawning, nursery, and feeding habitat for these and other aquatic species, and is bordered by extensive salt marsh wetlands and intertidal mudflats. Any structural method of reducing flood damage must provide for the maintenance of these aquatic populations and habitats.

The Corps has begun extensive hydrological, geological, and biological surveys to assess existing conditions within the Saugus River Estuary and to predict the likely environmental effects from project implementation. Preliminary investigations by the Corps have indicated that the Saugus River floodgate option is preferable when considering the flood reduction effectiveness, public preference, economic feasibility, and environmental impacts of the three alternative plans. However, this option still proposes substantial aquatic habitat modifications, and could adversely affect resident aquatic populations by altering water quality parameters, circulation patterns, and currents, by creating a physical barrier to fish spawning grounds, or through direct habitat loss.

Based on the preliminary plans, the floodgate structure would reduce the channel opening from about 1000 feet to about 100 feet, and create a complete barrier up to about 5 feet above the river bottom. It is important that the effects of this structure be accurately predicted early in the development of project plans so that the structure can be designed to avoid and/or mitigate adverse effects to aquatic resources.

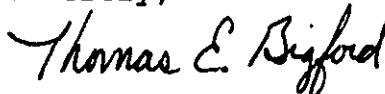


Increased current velocity at the gate structure could impede migrating fish. Predicted increases in velocity over the existing conditions should be related to the swimming abilities of migratory fish species, such as winter flounder, alewife, and blueback herring, to determine if the post-project current velocity would be within an acceptable range for all life stages of these species. Similarly, changes in salinity or temperature regime could affect spawning time, hatching success, and larval mortality. Changes in circulation patterns within the estuary could cause fish and shellfish larvae to be swept away from nursery areas or settling sites and cause increased mortality. We should assume that resident populations have developed effective spawning strategies that are attuned to ambient conditions, and that significant deviations could adversely affect reproductive success.

An assessment of the ability of migrating fish to pass over the proposed vertical barrier at the gate structure should also be conducted. Although it is likely that this structure will not impede pelagic species, such as alewife and blueback herring, demersal species, such as the winter flounder, may be obstructed. To address this issue it may be necessary to conduct an experiment to assess winter flounder's ability to maneuver over vertical barriers. It may be more practical to redesign the tide gate structure with a complete opening, or to create some type of gradual incline leading up to the barrier.

We appreciate the opportunity to comment on this project in this early development phase. For further coordination, please contact Susan Mello at FTS 840-1323.

Sincerely,



Thomas E. Bigford
Branch Chief

cc: Vern Lang, FWS - Concord, NH
Ed Reiner, EPA - WQP, Boston
Don Cooke, EPA - RGR, Boston
Jim O'Connell, MACZM
Leigh Bridges, MADMF
Joe Horowitz, COE
Mike Ludwig



Federal Emergency Management Agency

Region I J.W. McCormack Post Office and Court House
Boston, Massachusetts 02109

JUL 02 1987

Mr. Joseph L. Ignazio
Chief, Planning Officer
Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Mr. Ignazio:

We appreciate the invitation extended to this office to attend the Environmental Impact Statement (EIS) Scoping Meeting on May 27, 1987 in Saugus, Massachusetts for the Corps of Engineers Saugus River and Tributaries, Flood Damage Reduction Study.

We have examined both the Project Information Report and the Draft (EIS) Outline and agree that Option #3 the Regional Saugus River Floodgate Plan would represent the most beneficial solution for tidal flooding protection in this area.

The Draft (EIS) Outline does indicate that hydrological impacts of this proposal will be examined. This office would be particularly concerned about the potential impacts this proposed floodgate barrier would have on both coastal and riverine flood levels as presently established in the completed FEMA Flood Insurance Studies for the four communities effected of Lynn, Malden, Revere and Saugus. The revised levels and flood mapping should be made available to FEMA.

Finally, we recommend that warning and evacuation plans be developed to the extent necessary with Option #3 if some structures remain unprotected by the construction of the flood gate.

If this agency can provide any further assistance in the development of the EIS for this important flood control project, please contact Paul White or Kevin Merli of this office at (617) 223-9561.

Sincerely,

A handwritten signature in cursive script, reading "Edward A. Thomas".

Edward A. Thomas, Chief
Natural & Technological Hazards Division



United States Department of the Interior

FISH AND WILDLIFE SERVICE
400 RALPH PILL MARKETPLACE
22 BRIDGE STREET
CONCORD, NEW HAMPSHIRE 03301-4901

Mr. Joseph Ignazio, Chief
Planning Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

NOV 09 1987

Dear Mr. Ignazio:

This Planning Aid Letter is written to assist the Planning Division of the Corps in identifying the environmental issues regarding the proposed flood control project for the Saugus River and tributaries. It has been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661, et seq.)

In October 1985, the Southeastern New England (SENE) study formally identified coastal flooding in the Saugus River as one matter requiring additional investigation. Approximately 5,000 residential and commercial buildings within the communities of Lynn, Saugus, Revere and Malden have historically experienced tidal flooding during major storms. Largely as a result of the "Blizzard of February 1978", the Corps of Engineers began a study to determine how to reduce flood damages in the four communities.

Three potential solutions or options have emerged for reducing flood damages. Option I involves four structural local protection plans (LPP). This consists of constructing earthen dikes and concrete walls at Revere Beach Backshore, Lynn, East Saugus and Town Line Brook. All LPP's would protect each area from a severe coastal storm. Option II is a nonstructural plan which involves such measures as flood insurance, floodproofing buildings, flood warning, and evacuation. Option III, the Corps' preferred alternative, consists of constructing a floodgate at the mouth of the Saugus River near the General Edwards Bridge. This would reduce flooding of the 1,800 acres (elevation 8 feet N.G.V.D.) of the Saugus and Pines River Estuary during severe storms. Both Options I and III pose many questions regarding potential environmental impacts to the estuary. One of the purposes of this letter is to advise your office of some of these issues that will need to be addressed during the Feasibility Study and in the Environmental Impact Statement (EIS) preparation process.

The importance of the Saugus and Pines River estuary cannot be overemphasized since it contains a wide variety of public trust resources. Nearly 70 percent of all commercial fish and shellfish resources are dependent upon estuaries for spawning and nursery grounds. This estuary with its saltmarshes, mudflats, and shallow subtidal channels is one of the most biologically significant estuaries in Massachusetts north of Boston. Many species of birds are dependent on the estuary. A few of the more noteworthy ones include the glossy ibis, clapper rail, seaside sparrow, sharp-tailed sparrow, snowy egret,

great egret, great blue heron, green heron, black-crowned night heron, harrier, black ducks, mallards and gadwalls. Local birders report observing peregrine falcons and ospreys over the marsh during fall migration. Black ducks, a species of special concern because of declining populations, winter within the estuary. Snowy owls also use the area periodically during the winter months. The Feasibility Study needs to identify the species and numbers of birds that use the marsh for nesting and other reproductive functions as well as winter residents and the importance of this estuary during spring and fall migration seasons. The spatial and temporal uses of this estuary by avian resources need to be identified.

The mud flats of the estuary perform another important ecological role. Marine worms, snails and other shellfish in the marsh form the basis of the macro-marine food chain. Shorebirds and finfish which feed on these invertebrates may in turn become prey for the peregrine falcon and osprey. Snails which feed on the organic material of the mud flat are an important dietary staple for black ducks. Soft shelled clams and mussels, although too contaminated for human consumption unless depurated, are an important food source to many species of diving ducks which frequent the marsh during the winter months. Winter flounder, alewife, smelt, blueback herring, and eels are a few of the more common recreationally valuable finfish that occur in the Saugus and Pines River Estuary. Spawning and nursery habitat is available in the estuary for many of these species. Additionally, Atlantic silversides, mummichogs, and sticklebacks occur in the pannes of water in the marsh. These in turn are preyed upon by green herons and other wading birds. Collectively, the biotic and abiotic factors of the marsh are fragile and interdependently connected. These species have adapted to tolerate normal changes in water levels, salinity, temperature, and dissolved oxygen brought on by tidal action. However, any action which would disrupt the tidal flow in and out of the estuary for a prolonged period may directly or indirectly impact individual species, groups of species or perhaps, food webs.

One of the primary issues regarding your preferred alternative is how the tidal barrier would impact the estuary and the organisms dependent upon it. The present channel opening near the General Edwards Bridge is approximately 1,000 feet. Installation of a floodgate would reduce the channel width to 100 feet for navigation. This would increase current velocity at the gate structure which may impact fish and other biota movement in and out of the estuary. Gate structures must be designed to allow safe fish passage. Due to the funnel effect of tidal water moving through a constricted opening in the gate structure, a delayed low and high tide is likely to occur. Your investigations should identify how this would affect water levels and volumes within the estuary, spatially and temporally. We also expect the floodgate to alter water circulation and sedimentation patterns, particularly near the General Edwards Bridge. This could potentially be damaging to marine resources, particularly shellfish beds. Members of my staff have identified

productive shellfish beds in the mud flats from the General Edwards Bridge area upstream in the Pines River to Seaplane Basin as well as in the Saugus River. Productive spawning and nursery habitat also exists for finfish in the estuary.

We are also concerned that a closed floodgate could alter the pH, salinity, temperature, dissolved oxygen and contaminant accumulation as freshwater runoff from interior storage areas becomes locked into the marsh during storm events. We have reservations about how this will impact shellfish, submerged aquatic plants, finfish, benthic invertebrates as well as other organisms in the estuary. We recommend you initiate water quality investigations throughout the year, to determine pH, salinity, temperature, dissolved oxygen, as well as conventional, non-conventional and priority pollutants in this system. This information would help enable agencies to predict what water quality changes may occur and how this in turn may impact the ecology of the estuary. We also request that the Corps identify all municipal and commercial outfall pipes in the immediate study area, the contents of the discharges and their spatial and temporal distribution. It is our understanding that General Electric has at least 30 outfall pipes discharging cooling and process water into the marsh. RESCO draws water from the Saugus River, uses it for cooling, and discharges it back into the river. Between 50 and 100 municipal storm drainage pipes discharge storm water into the marsh. Storm water runoff contains petroleum hydrocarbons from streets, parking lots, as well as other contaminants from landfills and septic systems. The Corps needs to determine as precisely as possible the actual number of storm drainage pipes and the projected volume of water flowing into the marsh during storms. It is also necessary to identify the priority pollutants, conventional and non-conventional pollutants present in the stormdrain flows and at what concentration so that loadings to the estuary can be determined.

Another issue which needs to be addressed is how the floodgate will influence the high water elevation at high tide, spatially and temporally. We suspect that the 100 foot wide opening in the floodgate will restrict flow on incoming tides to the point that portions of the marsh may not receive the same spatial and temporal inundation that currently exists. We encourage you to calculate how many acres of marsh would be impacted with a reduction in the high water mark. The I-95 embankment acts as a barrier to incoming tides, reducing the historic high water mark by at least six inches. Restricted flows through the floodgate in combination with the I-95 embankment will further reduce the amount of water reaching the back of the marsh. It is our understanding that one of the arguments for not removing the I-95 embankment is that it acts as a barrier in reducing flood waters from adversely impacting the Towns of East Saugus and Saugus, except during unusual severe storms. Since the material in the embankment is earmarked for various state and federal projects, we encourage the Corps to work with those agencies to remove the I-95 embankment.

Removal of this impediment will enhance the quality and characteristics of the estuary by allowing an additional minimum of six inches of tidal water to circulate through the back portions of the marsh. The I-95 embankment is but one impediment restriction impacting the tidal prism of the marsh; there are others including the General Edwards Bridge and Route 107. The cumulative impacts of all these restrictions on the estuary needs to be addressed in the Feasibility Study and EIS.

The Service recommends the Corps identify the landowners of the estuary and explore the possibilities of purchasing the marsh to preserve its functions as floodwater storage, fisheries and wildlife habitat and recreational values. The estuary is an outstanding resource in an otherwise urban environment. As such, it is worthy of special management consideration.

The Service is also concerned that implementation of the floodgate option may stimulate secondary development in and along the fringes of the marsh. This issue needs to be addressed in your planning process. In other words, we are concerned that flood-prone land would become available for business or residential development that would not be available or as attractive for development without the project. For example, would the 100, 500 year, or standard project floodplain boundaries be changed as a result of the project? Additionally, your planning process needs to examine who will control the gates, what scenario must exist for gate closure, and for what duration? Also, what mechanisms exist for the Corps, state or local interests to change the operation of the project once it has been constructed? Could the project operation be changed to eliminate "spring tides" for instance in the estuary?

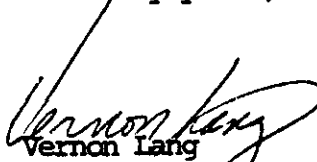
The four local protection plans being considered under Option I also have the potential to adversely impact the estuary. Approximately 10 miles of earthen dikes and concrete walls would be built, negatively impacting a minimum of 31 acres of saltmarsh and 32 acres of mud flats, river bank and river bottom habitat. These structures would tie into high ground to prevent floodwaters from impacting residential and commercial properties in the communities near the marsh. Your planning process also needs to address the indirect impacts associated with construction and maintenance of nearly 10 miles of dikes and walls and the source of the material to construct these structures. Construction activities should be curtailed during the spring and early summer months to avoid disrupting nesting of a variety of birds, most notably dabbling ducks and songbirds. Additionally, strict erosion control measures would need to be implemented to reduce the amount of silt from entering the marsh during construction of dikes and walls. Your planning process should also identify the impacts associated with access points, construction vehicle roads and equipment staging areas. Would vegetation be allowed to return to disturbed areas adjacent to dikes or would these areas be kept void of plant

growth by herbicides as part of the maintenance schedule? What human uses would be allowed on the dikes, i.e., bicycle or pedestrian paths or ORV trails?

One other alternative to either the local protection plans or floodgate structure is nonstructural plans. We recognize that this alternative is not regarded by the Corps as a viable option but the Feasibility Study and EIS should address nonstructural plans such as flood warning and evacuation plans, flood insurance, floodproofing buildings, and raising and/or relocating buildings in the floodplain area.

We look forward to working with you throughout the next phase of the planning process. Please contact Ron Joseph or myself if you should have any questions concerning this letter.

Sincerely yours,


Vernon Lang
Acting Supervisor
New England Area



United States Department of the Interior

FISH AND WILDLIFE SERVICE
400 RALPH PILL MARKETPLACE
22 BRIDGE STREET
CONCORD, NEW HAMPSHIRE 03301-4901

Mr. Joseph L. Ignazio
Chief, Planning Division
U.S. Army Corps of Engineers,
424 Trapelo Road
Waltham, Massachusetts 02254

APR 22 1988

Dear Mr. Ignazio:

This responds to your request, dated April 7, 1988, for information on the presence of Federally listed and proposed endangered or threatened species in accordance with the Saugus River and Tributaries, Flood Damage Reduction Study project.

Our review shows that except for occasional transient individuals, no Federally listed or proposed threatened and endangered species under our jurisdiction are known to exist in the project area. No Biological Assessment or further consultation is required with us under Section 7 of the Endangered Species Act. However, you may wish to contact the Massachusetts Natural Heritage Program, 100 Cambridge Street, Boston, Massachusetts, at 617-727-9194; and Dr. Tom French of the Massachusetts Division of Fisheries and Wildlife, 100 Cambridge Street, Boston, Massachusetts, at 617-727-3151, for information on state listed species. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to endangered species under our jurisdiction. It does not address other legislation or our responsibilities under the Fish and Wildlife Coordination Act.

A list of Federally designated endangered and threatened species in Massachusetts is inclosed for your information. Thank you for your cooperation and please contact Roger Hogan of this office at 603-225-1411 if we can be of further assistance.

Sincerely yours,

Gordon E. Beckett
Supervisor
New England Area

Inclosure

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS

Common Name	Scientific Name	Status	Distribution
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FISHES:

Sturgeon, shortnose*	<u>Acipenser brevirostrum</u>	E	Connecticut River & Atlantic Coastal Waters
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REPTILES:

Turtle, green*	<u>Chelonia mydas</u>	T	Oceanic straggler in Southern New England
Turtle, hawksbill*	<u>Eretmochelys imbricata</u>	E	Oceanic straggler in Southern New England
Turtle, leatherback*	<u>Dermochelys coriacea</u>	E	Oceanic summer resident
Turtle, loggerhead*	<u>Caretta caretta</u>	T	Oceanic summer resident
Turtle, Atlantic ridley*	<u>Lepidochelys kempi</u>	E	Oceanic summer resident
Turtle, Plymouth red- bellied	<u>Chrysemys rubriventris bangsi</u>	E	Plymouth & Dukes Counties

BIRDS:

Eagle, bald	<u>Haliaeetus leucocephalus</u>	E	Entire state
Falcon, American peregrine	<u>Falco peregrinus anatum</u>	E	Entire state-reestablish- ment to former breeding range in progress
Falcon, Arctic peregrine	<u>Falco peregrinus tundrius</u>	E	Entire state migratory-no nesting
Plover, Piping	<u>Charadrius melodus</u>	T	Entire state - nesting habitat
Roseate Tern	<u>Sterna dougallii dougallii</u>	E	Atlantic Coast

MAMMALS:

Cougar, eastern	<u>Felis concolor cougar</u>	E	Entire state-may be extinct
Whale, blue*	<u>Balaenoptera musculus</u>	E	Oceanic
Whale, finback*	<u>Balaenoptera physalus</u>	E	Oceanic
Whale, humpback*	<u>Megaptera novaeangliae</u>	E	Oceanic
Whale, right*	<u>Eubalaena spp. (all species)</u>	E	Oceanic
Whale, sei*	<u>Balaenoptera borealis</u>	E	Oceanic
Whale, sperm*	<u>Physeter catodon</u>	E	Oceanic

MOLLUSKS:

NONE

PLANTS:

Small Whorled Pogonia	<u>Isotria medeoloides</u>	E	Hampshire, Essex Hampden, Worcester Middlesex Counties
Gerardia, Sandplain	<u>Agalinus acuta</u>	**PE	Barnstable County

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service

** Potentially endangered

Rev. 1/25/88



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Management Division
Habitat Conservation Branch
2 State Fish Pier
Gloucester, MA. 01930-3097

April 29, 1988

Mr. Joseph L. Ignazio, Chief
Planning Division, NED
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

Dear Mr. Ignazio:

This is in response to your letter of April 7, 1988, regarding the presence of endangered or threatened species under the jurisdiction of the National Marine Fisheries Service near the Saugus River Flood Damage Reduction Study project area. There are no marine endangered or threatened species found near the Saugus River or its tributaries. Therefore, there is no need for further consultation pursuant to Section 7 of the Endangered Act of 1973, as amended. Should project plans change or new information become available that changes the basis for this determination, then consultation should be reinitiated.

Sincerely,

Douglas W. Beach
Wildlife Biologist





United States Department of the Interior

FISH AND WILDLIFE SERVICE
400 RALPH PILL MARKETPLACE
22 BRIDGE STREET
CONCORD, NEW HAMPSHIRE 03301-4901

Mr. James S. Hoyte Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

JUN 22 1988

Dear Mr. Hoyte:

This letter is in response to your memorandum of May 4, 1988, soliciting comments on the Broad Sound Area of Critical Environmental Concern (ACEC) nomination. The areas encompassed by the ACEC nomination include portions of the Saugus River and Pines River estuaries, Roughans Point, Revere Beach, Belle Island marsh, and associated areas in Saugus, Revere, Lynn, East Boston, and Winthrop. The Fish and Wildlife Service supports designation of the nominated area as an ACEC under the Massachusetts Coastal Zone Management Program. The following comments are provided for your consideration.

The Broad Sound Area supports a wide variety of significant fish and wildlife resources. These include shellfish and other marine invertebrates; anadromous, catadromous, and marine fishes; resident and migratory birds, including waterfowl, shorebirds, wading birds, sea birds, passerines and raptors; and resident mammals. The Saugus-Pines River Estuary, with over 750 acres of salt marshes, mudflats, and shallow subtidal channels, is one of the most biologically significant estuaries in Massachusetts north of Boston. Belle Isle Marsh, approximately 250 acres in size, is one of the last remaining salt marshes in the Boston Harbor area.

The many benefits provided by estuarine wetland systems are well documented. Nearly 70 percent of all commercial fish and shellfish resources are dependent upon estuaries for spawning and nursery grounds. Winter flounder, alewife, smelt, blueback herring, and American eel are a few of the more common valuable finfish that occur within the nominated estuarine ecosystems of Broad Sound. Additionally, Atlantic silversides, mummichogs, and sticklebacks occur in the shallow waters and pannes of the estuary.

Intertidal habitats, such as those found at Roughans Point, Belle Isle Marsh, Lynn Harbor, and the Saugus-Pines Estuary, support a variety of invertebrate resources. These include soft shelled and razor clams, mussels, snails, marine worms, and other invertebrates that are integral components of the marine food chain. Although many of the shellfish beds are presently too contaminated for human consumption, they represent an important food source for wildlife, attracting large numbers of wintering waterfowl to the area annually.

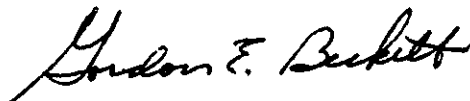
Many species of birds are dependent on estuarine habitats within the area encompassed by the Broad Sound ACEC nomination. A few noteworthy ones include the glossy ibis, clapper rail, seaside sparrow, sharp-tailed sparrow, snowy egret, great egret, great blue heron, green heron, black-crowned night heron, harrier, black duck, mallard, and gadwall. Peregrine falcons and ospreys have been observed over the Saugus-Pines River marsh by local birders during the migration seasons. Black ducks, a species of concern because of declining populations, winter in the protected waters of Broad Sound, particularly within Lynn Harbor. Because of the high level of use of the Lynn Harbor intertidal flats by black ducks, we recommend that the proposed ACEC boundary be expanded to include this area.

Wetlands and other special aquatic habitats in the Broad Sound vicinity have been seriously impacted by a number of development-related activities in the past. Despite the wide-spread recognition of important functional values provided by wetlands and the implementation of federal and state regulatory programs, wetlands in the Broad Sound vicinity continue to be lost to piecemeal filling. The loss of additional wetlands from residential and commercial development will likely continue, particularly if additional flood protection measures are provided in the future.

The Fish and Wildlife Service supports the designation of the nominated areas in the Broad Sound vicinity as an ACEC. We believe that the fish and wildlife resources which occur here are of state and national significance and as such merit the ACEC designation. Designation of an ACEC would result in formal recognition of the ecological and societal importance of the estuarine and coastal resources within Broad Sound. This, in turn, will focus public and resource agency attention on the need to meet the strict environmental standards for project review that currently exist, but are sometimes not enforced.

We hope that these comments will prove useful to your ACEC adoption proceedings. Please feel free to contact Michael Tehan of my staff at (603) 225-1411 or FTS 834-4411 if you have any questions regarding these comments.

Sincerely yours,



Gordon E. Beckett
Supervisor
New England Area

CC: RO/FWE Reading File
EPA, Don Cooke ✓
NED, Bob Hunt ✓
NMFS, Sue Mello
DFW&ELE, H.W. Heusmann
DEQE, Wetlands, Charlie Natale
DFW&ELE, Brad Chase
Mass. CZM, Brad Barr
FWE: MTehan:jd:6-21-88:834-4411



United States Department of the Interior

FISH AND WILDLIFE SERVICE
400 RALPH PILL MARKETPLACE
22 BRIDGE STREET
CONCORD, NEW HAMPSHIRE 03301-4901

Mr. Joseph Ignazio, Chief
Planning Division
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

SEP 15 1988

Dear Mr. Ignazio:

This planning aid letter provides comments on the Final Wetland-Estuary Assessment Report for the Saugus River and Tributaries Flood Damage and Reduction Study. This final report was prepared for the New England Division (NED), Corps of Engineers by the IEP, Inc. consulting firm in April, 1988. Our comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

GENERAL COMMENTS

The stated purpose of the final report is to provide the results of baseline natural resource inventories of the Saugus and Pines Rivers Estuary, including wetland plant communities, wildlife and fishery resources, and benthic invertebrate communities. With the exception of the concerns noted below, we found that the report generally provides a thorough review of these resources within the Saugus and Pines Rivers Estuary. The report should be a valuable source of baseline information for preparation of the environmental impact statement.

The primary deficiency of the baseline information is that it does not adequately describe the spatial and temporal distribution of resources within all areas potentially affected by the regional flood control project. Specifically, it does not adequately characterize: 1) winter or seasonal migration use of the estuary or other project-affected areas by wildlife resources such as migratory birds; or 2) wetlands, benthic communities, and wildlife resources of the entire area affected by the flood control project, particularly those areas east of the General Edwards Bridge and in Lynn Harbor that would be impacted by the flood barrier, dikes and floodwalls. Impact analyses and mitigation planning may be affected by the lack of complete resource data for these areas.

Other concerns with the report relate to the discussion of project impacts. We are unable to concur with all of the "no impact" conclusions reached for those project alternatives analyzed in the report. Some of our concerns stem from a continuing lack of baseline data on the physical and chemical environment necessary to evaluate impacts of the floodgate during closure periods; e.g. detailed information on the contents, volume, and location of all municipal and industrial discharges in the study area. In other cases, we

felt that assumptions regarding the affect of flood barrier alternatives were inadequately supported with biological justification; e.g fish passage impacts.

Some of our concerns regarding impact analyses in the report may no longer be relevant since the NED has subsequently adopted a revised flood barrier configuration (N4) that reduces impacts to the natural environment. For this reason, we have abbreviated our comments on those aspects of the impact analysis that are less relevant due to the revised project design.

Planning aid comments on the N4 design are not included in this letter. We have not yet received a final description of the N4 alternative nor has the NED formally requested our comments on the revised project configuration.

SPECIFIC COMMENTS

page 4. The wetland study area was limited to the area west of the General Edwards Bridge. The proposed flood control project includes the Saugus River east of the bridge, as well as portions of Lynn Harbor. The study area should have included all wetlands and marine habitats potentially affected by the project.

page 9. The narrative describing percent cover for community types on page 9 does not correspond with the percent cover figures in Table 2.2 on page 10. We could not find any explanation for this discrepancy.

page 17. We do not fully agree with the statement here that the study area does not provide "...even suitable habitat..." for any threatened or endangered species. We were unable to check the source of this statement as this and many other literature citations are not listed in the "References" section at the end of the report. It is true that the estuary has not been designated as critical habitat for threatened or endangered species. However, the area does provide suitable foraging habitat for raptors such as the peregrine falcon and bald eagle. These animals may hunt for waterfowl or shorebirds in the estuary and adjacent marine areas, particularly during the fall migration or wintering period when prey are concentrated. We reported previously that local birders have sighted peregrines over the estuary during the fall migration period. The estuary may also provide seasonal foraging habitat for the threatened piping plover.

page 21. English and metric measurement units are mixed throughout this section and much of the report. We found this inconvenient and recommend standardizing to a single measurement system, at least within the description of a given study.

page 27 The meaning of the term "dominant plant" should be clarified as it used in more than one context throughout the wetland plant section. In some cases, the term refers to the species with the highest frequency of occurrence. In other cases, it applies to the species with the highest percent cover. In at least one instance, two different species were described as dominant along the same transect (A3) and it is unclear what the criteria for dominance were there.

page 61 The reference to "marsh hawk" at the bottom of the page should be changed to "northern harrier" to reflect nomenclature changes from the sixth edition of the American Ornithologists' Union Checklist of North American Birds, published in 1983.

page 62 Wildlife use of the wetland compartments was characterized based on one or more site visits during the summer of 1987. Although good information of summer wildlife use was generated by this effort, it is difficult to adequately characterize the spatial and temporal uses by all wildlife based on limited observations during only one breeding season. It would be useful to have similar observations from more than one field season to account for year-to-year variability in animal populations.

page 73 The bird census surveys provide good information of the breeding bird populations of the estuary, but they do not adequately characterize temporal bird use of the estuary during the spring and fall migration or winter periods. One of the issues identified in our November 9, 1987, planning aid letter was the need to identify winter bird residents and the importance of the estuary to birds during the spring and fall migration seasons. We believe this information is important and should be included in the environmental impact statement.

page 87 Wildlife observation stations documented bird use only within the estuary, west of the General Edwards Bridge. We believe there is substantial seasonal use of habitats east of the bridge in areas potentially affected by the regional flood control project. If additional information on the use of these areas by wildlife cannot be obtained, the environmental impact statement should disclose the fact that there is insufficient information on this subject and proceed with a worst-case assumption; i.e. that areas affected by the project east of the bridge are important bird use areas.

page 126 We found the discussion of current velocities at the mouth of the river difficult to interpret. For example, the maximum current velocities described in the narrative on this page do not correspond with the maximum measured velocities shown in figures 4.6 or 4.7. Also, the report uses

current velocity information from navigation studies and applies it to fish passage analyses. Since the discussion relates to velocity impacts on fish passage, there should be a description of where in the water column velocity measurements/predictions were made and how this relates to the expected position of various fish species and life stages within the water column.

We also question some of the assumptions made with respect to swimming speeds of marine fishes and passage through the flood gates. Specifically, we question whether it is appropriate to apply the ratio of cruising speed to darting speed developed by Bell for salmonids to winter and windowpane flounder. The relationship did not hold true for cod, and there is no evidence that it would hold true for flatfishes. Since flounder are one of the most important species in the project area that exhibit annual estuarine migration, we believe a conservative analysis of their ability to pass through the floodgates is warranted.

page 136 The discussion of least damaging alternatives appears to be biased towards gate design N3. Based on information in the report, we believe that design EN would have the least impact on flow velocity and flushing rates, not N3 as concluded here.

page 139 The recommendation to orient flushing gate openings near the surface to pass fish is based primarily on salmonid behavior. Because of the presence of economically valuable demersal fish and invertebrate species known to migrate through the estuary, we recommend that the flushing gates be designed with openings that extend the full length of the water column. We also recommend that the gate sill elevation not extend above the river bottom. Constructing the sill flush with the bottom should provide a smooth transition through the gates and would preclude the need for costly monitoring studies of experimental "ramps" to pass lobsters and bottomfish. Also, rock blankets placed to prevent scouring of pier footings should be placed as close to the river bottom as possible and should have a gradual slope.

page 140 As stated before, we cannot concur that gate configuration N3 would have no impact on fishery resources. It is our understanding that the NED has developed a new flood barrier design, N4, that would improve flushing and fish passage conditions. As soon as the specifics of this design are provided to us, we will review it in detail and provide planning aid comments for your consideration.

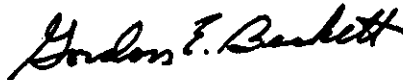
page 141-162 The evaluation of closed gate water quality impacts to fish provided on these pages is of limited usefulness due to the paucity of data on water quality and effluent discharges within the project-affected area. Accordingly, it is premature to conclude that impacts to fishery resources from water quality changes during closed gate conditions would be minimal. The

significant water quality data gaps identified here and in the report should be filled and hydraulic modeling studies completed before analyzing impacts to fishery resources during closed gate conditions.

page 170 It would be helpful if the report included a more thorough discussion of the rationale behind the study design for the benthic sampling program. For example, there is no explanation of why the benthic sampling design was intentionally "unbalanced", making it difficult to make statistical comparisons within and between sample areas. Why were random samples selected in some intertidal areas and transects in others? It also appears that the sampling program did not adequately target those areas where physical impacts from structures are expected, e.g. flood barrier locations east of the General Edwards Bridge and dike locations along Lynn Harbor. The benthic data is also limited by the fact that sampling was performed once during a single field season, and as such cannot account for year-to-year variability in species abundance or distribution. As a result of these shortcomings in the benthic sampling program, impact analyses and mitigation planning for certain project features may need to rely in part on past observations of shellfish and other invertebrate resources or on a worst-case type analysis.

Please contact Michael Tehan of my staff at 603 225-1411 or FTS 834-4411 should you have any questions regarding these planning aid comments. We look forward to the opportunity to review the modified project design for the Saugus River and Tributaries Flood Reduction study.

Sincerely yours,



Gordon E. Beckett
Supervisor
New England Area



United States Department of the Interior

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Joseph L. Ignazio
Chief, Planning Division
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

OCT 18 1988

Dear Mr. Ignazio:

We have completed our review of the Final Socioeconomic Assessment for the Saugus River and Tributaries Flood Damage and Reduction Study. The following planning aid comments are provided for your consideration. They have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The final report contains a substantial amount of useful information for incorporation into the environmental impact statement (EIS) currently under preparation. The report describes a number of factors that indicate there is potential for increased development in what is now considered the floodplain with implementation of the regional flood control project. Evidence that existing regulations have been ineffective in protecting wetlands is also provided. Based on our interpretation of the findings presented, we reached different conclusions than the authors. We believe that specific measures will be necessary to prevent the continued and possibly accelerated loss of wetlands from increased development pressure that can be expected with construction of the Saugus River and tributaries flood control project.

We recognize that attempting to predict the effect of flood protection on future development requires a certain degree of speculation. However, we have reiterated some of the statements/findings from the report that we believe support the contention that floodplain development may be stimulated with the provision of widespread flood control.

Page 28. "...there were opinions expressed amongst local developers and residents that there is pressure to develop within the marsh environment. Residents of Oak Island said that incremental, illegal filling of the marsh near them has occurred for years."

"A realtor in Saugus said that people are holding onto their property in the flood plain waiting for "something" to happen. She said that the requirement to build above the flood level has discouraged some building in the area."

"Violations of wetland filling is another indicator of the pressure for development." While reference is made to nine state enforcement cases here, the NED Enforcement Division recently photographed over 30 sites within the estuary for investigation of possible unauthorized filling.

Page 56. "Because of beach access, these neighborhoods [Point of Pines and Oak Island] are becoming more popular."

"...the possibility of a commuter rail station in East Saugus is increasing interest in the area."

Page 57. "Since the majority of the estuary is zoned for industrial use, there is some pressure for it to be used for industrial purposes."

Page 59. Regional industries will continue to grow in the future.

Page 71. Historically, salt marsh in the estuary has been filled to support industrial, residential, and commercial growth.

"Without a federal flood control project, the regulated flood plain is proposed to increase throughout the study area."

Page 90. With the project, it is assumed that the FEMA base flood elevation would be lowered. Development incentives associated with a lowered base flood elevation would include: reduced construction costs, elimination of flood insurance premiums, elimination of redevelopment restrictions associated with FEMA building regulations, and increased property values from eliminating the threat of large floods.

Contrary to the conclusion that wetland filling for development is negligible due to strict regulations, a number of findings presented in the report imply that current wetland protection regulations have been ineffective. Some of these findings are presented below:

Pages 6-12. Wetland losses detected by the IEP's analysis of aerial photography for Revere, Saugus, and Lynn totaled 59 acres since passage of the Clean Water Act and the Massachusetts Wetlands Protection Act (i.e., 1978-1987). A number of additional potential illegal fill sites have recently been photographed from the air by the Corps and are currently under investigation.

Page 31. The Massachusetts Wetlands Protection Act is not a panacea as suggested, since those portions of the marsh where Phragmites has become established may be filled without mitigation for wetland functional values. Also, the document notes that the DEQE staff gave the impression that wetland violations will continue to occur even with regulations in place.

Page 38. Zoning is not a deterrent since Saugus and Revere have zoned the marsh for industrial development.

Page 40. IEP identified 23 areas as recent fill within the estuary. As mentioned above, the NED Regulatory Enforcement Section identified approximately 10 more sites (a total of 33) during a recent aerial survey for investigation of possible unauthorized filling activity.

Page 27. The townhouse development on Marshall Street described here is currently under construction and was the subject of a recent Corps enforcement action. During the initial site preparation, the project was "expanded" into adjacent wetlands with the illegal placement of fill in salt marsh. Upon being notified by a local 'watchdog group', the Enforcement Section delineated the original wetland boundary and ordered that portion of the fill in Corps-jurisdiction wetlands removed. Although the illegally placed fill has been removed and technically there is no longer encroachment in the marsh, the habitat value of the site has been lost. The development extends right up to the edge of the marsh and has eliminated the vegetated buffer zone. The loss of buffering capacity associated with these fringe areas will in turn affect other functional values throughout the estuary. There will undoubtedly be further habitat degradation from increased human disturbance, parking lot runoff, etc.

We believe this project characterizes the type of wetland impacts that can be expected from development around the fringe of the estuary. Although the project was not intended to be developed in the marsh per se, fill was illegally placed and functional wetland values lost. We believe this type of fringe wetland encroachment will become more commonplace with the above-mentioned incentives for floodplain development associated with the regional flood control project.

IEP states on page 14 of the report that "It is the edge of the upland/salt marsh that would be potentially lost to any future incremental growth and development rather than any additional, centrally located, large-scale projects." We agree that fringe development is a major part of the problem, however, we believe that the possibility of future large-scale, centrally located projects cannot be ruled out. There is a great deal of vacant upland within the estuary that is available for development. The developable lot study showed that of the 237 acres of developable land within the study area, approximately two-thirds (160 acres) is within the 100-year floodplain. Although not specifically identified in the study, much of this land consists of previously filled tidelands. Since these areas are no longer classified as wetlands, the primary regulatory barriers to development are floodplain regulations. These former tidelands would be more attractive for development once the floodplain designation is eliminated with implementation of the regional flood control project.

The primary significance of developing previously filled tidelands is that they would no longer be available for restoration and enhancement of their former floodplain and wetland values. Restoration and preservation of the natural and beneficial values served by floodplains and wetlands is a responsibility of the Corps and other Federal agencies under Executive Orders 11988, Floodplain Management, and 11990, Protection of Wetlands.

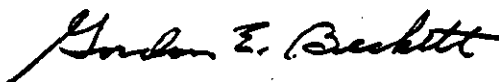
The Executive Order on Floodplain Management was issued in order to avoid the long-term and short-term impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development. Likewise, the Executive Order on Protection of Wetlands was issued in order to avoid long-term and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands. The mandates of both of these Orders are directly applicable to the Corp's intent to develop the Saugus River and tributaries regional flood control project. The environmental impact statement should include a discussion of alternatives to avoid adverse effects and new development in floodplains and wetlands.

In summary, we found the Final Socioeconomic Assessment to contain a great deal of useful information regarding development and wetland trends within the study area. However, we interpreted the information differently than the authors. We found support for the contention that wetland losses from developmental encroachment around the marsh will not only continue, but will possibly increase with implementation of the proposed regional flood control project. Wetland impacts associated with floodplain development incentives would likely result from increased development around the fringes of the marsh. Because a majority of the developable land in the study area lies within the floodplain, there is also potential for new larger-scale projects to be developed on previously filled tidelands within the estuary once floodplain construction restrictions are eliminated.

We would expect the environmental impact statement to include a discussion of alternative solutions to curb incremental wetland losses from induced floodplain development. There are obviously a number of possible solutions, ranging from increased support for enforcement and education to land protection options such as conservation easements and/or acquisition.

Please feel free to contact Mike Tehan at 603-225-1411 if we can be of further assistance on this subject.

Sincerely yours,



Gordon E. Beckett
Supervisor
New England Area



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

December 15, 1988

**Mr. Steven C. Davis
Assistant Secretary of Environmental Impact Review
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202**

ATTN: MEPA Unit--EOEA NO. 6716

Dear Mr. Davis:

The Environmental Protection Agency has reviewed the Planning Perspective Preliminary To Draft Environmental Impact Report for the proposed South Harbor project located in Lynn, Massachusetts proposed by the South Harbor Realty Trust. Our review, however, is limited to concerns which arise from the alternative shoreline protection proposals as it relates to the federal permit requirements, rather than the entire proposal for development of the upland at the site.

On December 9, 1987 Edward Reiner of my Wetland Protection staff met with Mr. Peter Walworth representing the developer and toured the subject property. This meeting was held in order to get some preliminary comments from the EPA in regard to ultimate permit applications to the Corps of Engineers under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act for work at the site.

The main issue of concern to EPA relates to the reconstruction of the deteriorated wooden vertical bulkhead at the site or other means of stabilizing the man-made shoreline. Adjacent to the wooden bulkhead is an extensive intertidal mud flat area which is considered to be a special aquatic site under the EPA section 404(b)(1) guidelines. In accord with the EPA guidelines we informed Mr. Walworth the best means stabilizing the shoreline would be to do it in a manner that avoids any additional encroachment on the mud flat by keeping the toe of slope of any new fill where the existing toe of slope or vertical bulkhead alignment exists. This would avoid all impacts to existing shellfish beds (soft shell clams, razor clams and blue mussels) and the other resources and values of the mud flat (sea worms, other invertebrates, shorebird feeding areas, etc).

A side issue relates to the presence and desired removal of an existing wooden barge located within the Saugus River adjacent to the site and the debris such as the cars which are located within the mud flat.

We further suggest that the required elevation of the land (above the floodplain) could be possibly achieved by having one height of fill nearest the waters edge and another level of fill further away from the shoreline where any development is proposed. This design may enhance the human access of the site to the water and mud flat as opposed to an extremely high seawall or riprap slope at the immediate shoreline.

We are pleased that the developer has proposed to maintain the toe of slope of the existing shoreline as is (Page 23) in accord with our recommendation. The developer, however, also proposes an alternate design which would require the filling of approximately 1.7 acres of the mud flat by maintaining the bulkhead line as the top of slope. The EPA would object to permit issuance for this alternative as less damaging practicable alternatives exist to avoid the mud flat fill (§230.10(a) of the EPA 404(b)(1) guidelines).

It is important to note that the Corps of Engineers has preliminary plans to place approximately 6.5 acres of fill in this same mud flat for the construction of their proposed flood dike as part of the flood protection project they are considering for the entire Saugus/Pines River estuary. The EPA would object to this fill based on the availability of a less damaging alternative means of achieving the required flood protection as envisioned by the first plan proposed by the South Harbor Realty Trust (i.e. keeping the toe of slope of any new fill at the existing toe of slope).

One additional item to note is that any proposal to dredge the mud flat area for marina development would likely raise substantial objections to permit issuance due to the loss of mud flat associated with dredging activities. The limited dredging, however, for installing the new toe of riprap would not raise objections from our office.

We are pleased to be able to provide these comments at this early stage of planing and hope that this will allow the developer to plan accordingly and therefore obtain any required permits in a quicker manner by avoiding permit objections.

Please call Edward Reiner of my staff at 617-565-4434 if additional coordination is needed in this matter.

Sincerely,



Douglas A. Thompson, Chief
Wetland Protection Section

Copies furnished:

Laura Eaton, USFWS, Concord, NH
Sue Mello, NMFS, Woods Hole, MA
Jay Copeland, MA NHP, Boston, MA
William Lawless, NEDACE, Regulatory Div., Waltham, MA
Robert Hunt, NEDACE, Planning Div., Waltham, MA
Robert Gauvarau, NEDACE, Executive Office, Waltham, MA
Judy Perry, MA DWPC, Boston, MA
Caroline Simmons, MACC, Medford, MA
Ron Manfredonia, Chief WQB, EPA
Jim O'Connell, MCZM, Boston, MA



United States Department of the Interior

FISH AND WILDLIFE SERVICE
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Mr. Joseph Ignazio, Chief
Planning Division
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

January 20, 1989

Dear Mr. Ignazio:

This letter provides review comments as requested for two technical reports prepared for the Saugus River and Tributaries Flood Damage Reduction Study. The reports are: the Draft Hydrologic and Hydraulic Analysis and the Draft Water Quality Assessment for the Tidal Flood Control Project. On December 8, 1988, we met with your staff to discuss issues from the technical reports as well as mitigation measures for the regional flood control project. The following comments summarize the primary issues from the reports discussed during the coordination meeting. Fish and wildlife mitigation (e.g. wetland compensation) will be discussed in a separate planning aid letter. These comments are provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

Hydrology and Hydraulics Analysis

Of the topics discussed during our coordination meeting, we have identified three issues that require further discussion/clarification as the planning process continues. These are: 1) the design of the flushing gates with respect to impacts on estuary flushing and fish passage; 2) delineation and preservation of the interior storage area for ponding runoff during a closed gate condition; and 3) the effect of sea level rise on project design and operation.

Gate Design

Our primary concerns with the floodgate design center around the need to avoid a constriction or barrier at the mouth of the Saugus-Pines River estuary that may impede tidal exchange (estuary flushing) or the passage of fish or other aquatic organisms (active or passive). Of the alternate floodgate designs presented to date, the EN and N4 conceptual designs would have the least relative impact to estuary flushing and fish passage. We therefore recommend that either of these gate schemes be adopted if the tidal floodgate option is implemented.

The additional flushing gates of the N4 configuration alleviate most of the tidal exchange impacts associated with the other alternatives (FC, N1, N2, N3). The N4 gate configuration, with the lower flushing gate openings flush with the river bottom, should eliminate the potential for demersal fish and lobster passage impacts that existed with the elevated gate sills of previous

designs. Because of the benefits associated with the N4 gate configuration, we recommend that neither the flow area nor the distribution of gate openings be reduced from that which is currently proposed. We also recommend that gate sills remain flush with the river bottom.

Our remaining concerns with the N4 gate scheme relate to the fact that the gate will constrict daily tidal flows at water surface elevations above mean sea level (0.0 feet NGVD). Because the top of the flushing gate is at elevation 0.0 feet, pressure flow conditions will exist when tide levels exceed this elevation. The structure may hinder the passage of certain fish species since the upper portion of the water column would be obstructed at tide levels above 0.0 NGVD, and surface swimming fish would have to sound to pass through the flushing gates. Also of concern is the affect of pressure flow through the gate openings on ichthyoplankton. Organisms may experience mortality or predation following injury from impingement or contact with shear zones associated with turbulent eddies. Even if the gates do not exceed velocities or shear forces at existing structures, cumulative impacts may prove significant.

We recognize that these types of biological impacts are difficult to quantify. Rather than assume they are insignificant, we recommend that the potential for fishery impacts be minimized by increasing the top elevation of the flushing gate openings to reduce flow constriction at higher tide elevations. Ideally, the gates would be fully open to allow unrestricted tidal exchange as with the navigation gate. Also, the edges of the flushing gates should be rounded and designed to promote smooth laminar flow through the opening to reduce the potential for impingement, shear forces, and turbulent eddies. We understand that the Corps intends to take a more detailed look at these project design issues. We look forward to continued coordination with the Corps to help resolve our fish passage concerns.

Interior Storage

We believe that the issue of interior storage capacity could benefit from further clarification as per discussion at the coordination meeting. Our interest in clarifying this issue is due to the fact that the interior storage area is comprised of estuarine wetlands of major ecological significance. Despite protection under federal and state regulations, illegal wetland filling has been a problem in the Saugus-Pines River estuary.

It is our understanding that by preserving all estuarine lands below +7.0 feet NGVD, enough storage for worst-case interior runoff and wave overtopping would be provided without sea level rise. The Corps has indicated that all tidally influenced wetlands in the study area are contained below this level. It is also our understanding that protection of the area below +7.0 NGVD will be accomplished not only under pertinent federal, state and local regulations, but through local assurances to be developed for this project. To assist in the protection of the designated storage area, it is our understanding that the Corps will delineate both the wetland-upland boundary and the +7.0-foot contour on project maps.

We fully support the Corps proposal to closely monitor the designated storage area for compliance with local assurance provisions and wetland protection regulations. Depending on the estimates for increased wave overtopping with projected sea level rise, it may be prudent to increase the interior ponding area even further, e.g. include all undeveloped land in the estuary up to elevation +8.0, the elevation where flood damage starts.

Sea Level Rise

The Hydrology and Hydraulics Analysis discusses the affect of sea level rise on project operation. According to Corps policy, the analysis was based on both the actual historical rate of local sea level rise (approximately one foot over the project life) and the National Research Council's maximum projected sea level rise (approximately four feet). It is our understanding that under both the one foot and the four foot projections for sea level rise, the project could begin to negatively affect estuary flushing during maximum astronomic tides. It is also our understanding that the project would begin to impact estuary flushing during more frequently occurring tide levels if sea level rise exceeds two feet. Maximum current velocities through the floodgate and gate closure frequency would also increase with sea level rise. The implication of these impacts should be thoroughly evaluated.

We acknowledge that sea level rise is a relatively new issue for the scientific community and that predictions of sea level rise vary dramatically. However, we believe that the local historic rate of sea level rise represents a realistic minimum projection and should play an important role in project planning and design. Consideration of even the minimum rate of sea level rise lends additional support for our recommendations to maximize the open area of the flushing gates and to take a conservative approach in the delineation and preservation of interior storage capacity. It is our understanding that if sea level rise exceeds one or two feet, then project modifications would be warranted and additional coordination on fish and wildlife issues would be required.

Water Quality Assessment

The draft Water Quality Assessment generally provides a thorough review of water quality issues pertinent to development of the tidal flood gate. As indicated in the Water Quality Assessment, tidal exchange in the Saugus/Pines River estuary far exceeds the influence of fresh water inflow. Tidal flushing plays a significant role in maintaining water quality in the estuary, particularly in diluting bacterial, chemical, and thermal inputs. Tidal exchange in the estuary is already impeded by manmade constrictions, including bridges and the I-95 fill embankment. Any further restriction of tidal flushing would contribute cumulatively to water quality degradation in the estuary.

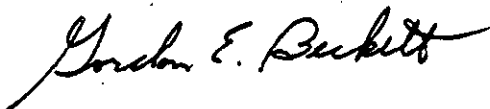
As mentioned above, even the N4 gate scheme would restrict tidal flow at higher tide elevations. As was explained during the coordination meeting, the open area of N4 exceeds that of the narrowest existing constriction at the estuary mouth during the time of maximum tidal exchange, i.e. when the tide level is at 0.0 feet elevation. Thus, while there will be a constriction of flow once the tide level exceeds elevation 0.0 feet, the overall reduction in

tidal exchange is predicted to be only 0.1 percent, which the Corps considers negligible. To insure that the floodgate does not impact water quality by impeding tidal exchange, we recommend that the open area of the structure not be decreased from the currently proposed 8700 square feet. Preferably, the total open area would be increased by raising the top of the flushing gate openings as suggested above. This would provide an additional margin of safety in the event that future sea level rise exceeds the minimum predictions.

In the Water Quality Assessment, it is assumed that the I-95 fill would probably be breached by others once the regional protection project is built and that breaching of the fill would partially compensate for any lost tidal flushing volume associated with the project (page 76). These assumptions are contrary to our December 8, 1988, discussions that breaching of the I-95 fill is highly unlikely due to state and local concerns, e.g. nuisance flooding in East Saugus. It is our understanding that all references to breaching the I-95 fill will be removed from the final report.

We appreciate your efforts to develop an environmentally sound project and look forward to further coordination in the next stage of project planning. Please contact Michael Tehan at (603) 225-1411 if there are any questions.

Sincerely yours,

A handwritten signature in cursive script, reading "Gordon E. Beckett".

Gordon E. Beckett
Supervisor
New England Area



United States Department of the Interior

FISH AND WILDLIFE SERVICE
400 RALPH PILL MARKETPLACE
22 BRIDGE STREET
CONCORD, NEW HAMPSHIRE 03301-4901

Mr. Joseph Ignazio, Chief
Planning Division
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

March 7, 1989

Dear Mr. Ignazio:

This letter is in regard to mitigation planning for the Saugus River and Tributaries Flood Damage Reduction Study. It focuses primarily on mitigation for wetland and intertidal habitat losses associated with the two structural options for the regional flood control project--i.e. local protection plans (option 1) and the Saugus River tidegate (option 3). We have not received a formal mitigation plan to review and comment on at this time. However, at the request of Mr. Robert Hunt, Project Manager, and others, we are providing these comments to document discussions between this office and the Planning Division on the subject of mitigation. These comments are provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

Under option 1, structural local protection plans, flood protection would be provided for four areas: Lynn, East Saugus, Town Line Brook, and Revere Beach Backshore. Four separate local protection projects would be constructed, totaling some 8.8 miles of earthen dikes and concrete walls. It is our understanding that this option, as presently proposed, would require filling approximately 17.7 acres of wetlands and 20.2 acres of intertidal flats. Up to 10 additional acres of wetlands and 2.9 additional acres of intertidal flats would be impacted during the construction period.

Option 3, the regional floodgate plan, would include a floodgate structure across the mouth of the Saugus River, and shorefront protection along Revere Beach, Point of Pines, and Lynn Harbor. We understand that option 3 would not require the filling of wetlands, however, 10 acres of productive intertidal and subtidal habitats would be filled or dredged--3.0 acres at the floodgate site, 5.6 acres at Lynn Harbor, and 1.4 acres at Point of Pines. An additional 3.8 acres of intertidal and subtidal habitat would be impacted by scouring in the vicinity of the floodgate. We understand that the proposed dredging limits for the floodgate have been modified to avoid mussel beds in Lynn Harbor.

Mitigation planning efforts by the Corps have focused on formulating the most economically efficient plans to create replacement wetland and intertidal habitats as compensation for project-related habitat losses. We understand that wetland losses from option 1 would be mitigated by creating 19.5 acres of estuarine wetlands through removal of a portion of the of the I-95 fill embankment. A linear strip of the fill would be graded down to the elevation of the surrounding marsh and wetland vegetation planted. We understand the new

wetland would be monitored to insure successful wetland plant establishment, with corrective measures taken if initial attempts are less than completely successful. The mitigation site would be maintained for the life of the flood control project.

We understand that intertidal habitat losses would be mitigated by creating clam flats adjacent to the Seaplane Basin--20 acres for option 1 or 10 acres for option 3. A portion of the I-95 fill would be removed, the site graded to match the elevation and slope of adjacent clam flats, and soft-shelled clams transplanted from nearby areas to seed the newly created habitat. The mitigation plan calls for establishment of a fringe of Spartina and dune grasses to act as a buffer zone from human activity, e.g. ORV traffic.

It is our understanding that by using floodwalls instead of earthen levees, wetland losses from option 1 could be reduced from 17.7 acres to 3.7 acres. By using floodwalls along Lynn Harbor instead of levees for option 3, 5.6 acres of fill in intertidal clam flats could be avoided. A similar reduction in impacts could be expected for option 1. It is also our understanding that while floodwalls would cost more than levees, the overall benefit/cost ratio for the regional flood control project would remain positive even if the less damaging floodwall alternatives were implemented.

We are concerned that the Corps has focused their mitigation efforts on habitat compensation measures for losses that could be avoided by implementing less damaging alternatives. This problem is brought on by the inherent inconsistency between the Corps' planning policy of developing the National Economic Development (NED) Plan, consistent with the Water Resources Council's Principles and Guidelines, and the purpose and policies of the Clean Water Act (CWA) and its implementing regulations such as the Section 404(b)(1) Guidelines. The 404(b)(1) Guidelines are enforceable regulations that apply to both the Corps' Section 404 regulatory program and the civil works program [40 CFR 230.2]. In contrast, the Principles and Guidelines, as adopted on March 10, 1983, are not rules; they are advisory only. In developing the NED plan, it appears as though project cost is the overriding factor considered by the Corps. Another important element of project acceptability is compliance with state and federal regulatory requirements. The planning process must be thorough in terms of compliance with applicable laws, e.g. Section 401 water quality certification, CZM consistency, and Section 404(b)(1) Guidelines, so that construction will not be delayed or prohibited by an unresolved regulatory process.

It is our understanding that the Planning Division's primary consideration in developing mitigation is also cost. We believe that the use of economics as the primary mitigation decision criteria is inconsistent with a number of federal laws, regulations and guidelines that call for fish and wildlife to receive equal consideration with other project purposes (Fish and Wildlife Coordination Act) and which promote a step by step mitigation process emphasizing impact avoidance and minimization before compensation (Section 404(b)(1) Guidelines, the National Environmental Policy Act, Executive Order 11990, Protection of Wetlands, and the Fish and Wildlife Service Mitigation Policy).

The President's Council on Environmental Quality defined the term mitigation in the National Environmental Policy Act regulations to include "(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree of magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments" [40 CFR Part 1508.20 (a-e)]. We support this definition of mitigation and have made it an integral part of our Mitigation Policy [FR 46:15, January 23, 1981]. We consider the specific elements of this definition to represent the desirable sequence of steps in the mitigation planning process. Compensating for impacts by providing replacement resources should occur only after all of the other mitigation steps have been exhaustively pursued.

The Planning Division's approach to mitigation should be consistent with that used in the evaluation of wetland fill projects under the Corps' Section 404 regulatory program where the above referenced laws and guidelines are routinely applied. It is likely that a 404 permit application for a project with wetland or aquatic impacts of the same magnitude as this civil works proposal would receive strong objections from reviewing resource agencies. As an example, it is our understanding that a private development company recently proposed a shoreline protection project for Lynn Harbor similar to the Corps' levee proposal. We understand that during pre-development consultation in the MEPA process, the EPA indicated they would consider any shorefront protection project that encroached upon the intertidal zone in Lynn Harbor to be inconsistent with the 404(b)(1) Guideline provisions regarding water dependency, practicable alternatives, and significant degradation. We further understand the developer was advised to seek less damaging alternatives for the project prior to applying for a Section 404 permit. The discharge restrictions that apply to Section 404 regulatory activities apply equally to Corps' civil works projects.

We are also concerned with the Corps reliance on replacement habitat creation for mitigation because we do not believe that wetland creation is a proven science or that all functional values of natural wetlands can successfully be duplicated with any predictable degree of success. Wetland creation in the regulatory arena has a poor success record. For example, a recent EPA assessment of wetland mitigation practices associated with the 404 regulatory program found that planned wetland mitigation resulted in a substantial net loss of wetland acreage, a net loss of wetland diversity, and temporal wetland losses at the mitigation sites. Likewise, in a 1985 review of wetland mitigation (Mitigating Freshwater Wetland Alterations in the Glaciated Northeastern United States: An Assessment of the Science Base), J.S. Larson concluded that there is a high degree of uncertainty associated with artificially duplicating certain wetland functional values, particularly water quality and nutrient cycling functions. Risk and uncertainty in the ability to duplicate fundamental detrital and grazing niches in the food chain were also noted. Larson cites several references that suggest there is still a great deal of uncertainty and risk in artificially creating coastal wetlands for mitigation.

It is likely that some level of wetland compensation will be required for option 1, even if the less damaging floodwall alternative is adopted. To compensate unavoidable wetland losses, we recommend a minimum wetland replacement/loss ratio of greater than one, preferably at least 2 to 1. This would not only compensate for the productivity lag following construction, but would allow for a margin of safety in the event that functional wetland values of the new habitat are less than expected. We note that 2 to 1 compensatory mitigation was required as a permit condition for wetland losses associated with the RESCO project in the Saugus River estuary.

While we fully endorse removal of the I-95 fill, preferably in its entirety, we recommend that other potential wetland restoration sites within the estuary also be evaluated. We believe there may be other degraded sites that offer greater potential for successful restoration (fill removal, restoring tidal flushing) than the I-95 site. It is our understanding that during the original placement of the I-95 fill, the underlying wetland substrate was removed to a substantial depth and replaced with compacted fill material. The physical characteristics of this material may affect restoration of wetland vegetation, soils, and hydrology. Wetland reestablishment may take longer than at a site where the underlying wetland soils are intact. To facilitate wetland recovery, it may be necessary to replace peat that was previously removed. The Corps may wish to consider other candidate restoration sites, e.g. the old Saugus racetrack, where wetland recovery may be more rapid. We look forward to additional coordination on this issue.

Another recommendation to improve the wetland compensation proposal is to include a vegetated buffer zone along the upland boundary of the mitigation site to provide habitat diversity and to isolate and protect the site from encroaching development around the estuary perimeter. The proposal for intertidal habitat mitigation already includes a vegetated buffer zone of Spartina and beach grasses to protect the site. We also recommend that human access to the compensation site be controlled, for example, by fencing the site to exclude off road vehicles.

Provided that wetland and aquatic fills can be reduced to comply with NEPA, CZM, and CWA regulations, we support the inclusion of a monitoring program and remedial contingencies as compensation plan features. Inadequate monitoring and failure to take corrective action have been a significant source of past mitigation failures. We look forward to working closely with the Corps to develop specific evaluation criteria and other details of mitigation follow-up studies.

In summary, we concur with the Corps' recognition of the high ecological importance of wetlands and intertidal flats affected by the project. While we support the Corps intent to fully mitigate impacts to wetlands and aquatic habitats, we cannot endorse the current proposal for experimental habitat compensation when less damaging practicable alternatives are available. We do not believe that the science of wetland creation is sufficiently developed to allow natural wetlands to be duplicated with any degree of certainty.

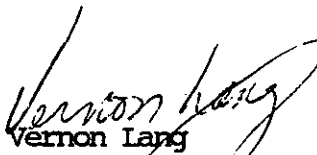
Wetland and intertidal habitat creation should be used for compensation only where impacts are clearly unavoidable and the Corps can demonstrate that less damaging alternatives are not available. It is our understanding that the Planning Division has determined that less damaging, practicable alternatives are available for this project. Further, we understand that the Corps has determined that the use of flood walls instead of earth levees for local protection structures would substantially reduce the amount of wetland and intertidal habitat lost to filling; would fully accomplish project flood control objectives; and would still result in a positive overall benefit/cost ratio for the project. It is important that these less damaging alternatives be fully developed in the NEPA environmental impact statement.

In the event that certain wetland and aquatic impacts cannot be avoided, as determined by application of 40 CFR 230.10(a), the EPA 404(b)(1) Guidelines, we recommend that compensatory wetland mitigation be provided on at least a 2 to 1 basis. We also recommend that additional wetland compensation sites within the Saugus-Pines River Estuary be evaluated. While we fully endorse removal of the I-95 fill and subsequent wetland restoration, we believe there may be other degraded wetlands within the estuary with greater potential for rapid recovery that would suit the Corps' compensation needs.

Finally, as we have stated in previous correspondence on this project, we believe that non-structural alternatives, such as flood insurance, would be the least damaging to wetland and aquatic resources. Non-structural solutions represent practicable alternatives within the meaning of the NEPA and CWA regulations and as such, should be given full consideration under the alternatives analysis in the NEPA environmental impact statement.

We appreciate the opportunity to provide these early fish and wildlife coordination comments. We look forward to continued consultation with the Planning Division to resolve these and other fish and wildlife issues during the project planning process. Please contact Michael Tehan at (603) 225-1411 if there are any further questions.

Sincerely yours,


Vernon Lang
Acting Supervisor
New England Area



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254

REPLY TO
ATTENTION OF

March 28, 1989

Planning Division
Impact Analysis Branch


Mr. Gordon E. Beckett
U.S. Department of the Interior
Fish and Wildlife Service
22 Bridge Street
Ralph Pill Building, 4th Floor
Concord, New Hampshire 03301

Dear Mr. Beckett:

In accordance with the Fish and Wildlife Coordination Act transfer funding scope of work, enclosed please find a pre-release copy of the Saugus River and Tributaries Flood Damage Reduction Study Main Report and EIS/EIR, for your review.

I would appreciate receiving a Final Coordination Act Report within 30 days, as previously agreed.

Sincerely,


for Joseph L. Ignazio
Chief, Planning Division



United States Department of the Interior

FISH AND WILDLIFE SERVICE
400 RALPH PILL MARKETPLACE
22 BRIDGE STREET
CONCORD, NEW HAMPSHIRE 03301-4901

LTC Stanley J. Murphy
Deputy Division Engineer
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

May 4, 1989

Dear Colonel Murphy:

We hereby submit our Fish and Wildlife Coordination Act Report on the Saugus River and Tributaries Flood Reduction Study, in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). This report also includes our comments and recommendations for the protection of estuaries pursuant to 16 U.S.C. 1221-1226, Estuarine Areas (Estuary Protection Act). We have considered information from the pre-release copy of the Draft Feasibility Report and Draft Environmental Impact Statement/Environmental Impact Report (DEIS) in preparing our report. It is our understanding these documents will soon be available for public review and comment.

The Corps' preferred alternative for reducing flood damages in the study area is Option 3, the regional floodgate plan. This option would include a floodgate structure across the mouth of the Saugus River, and shorefront protection along Revere Beach, Point of Pines, and Lynn Harbor. Overall, 11 acres of intertidal and 3.8 acres of subtidal habitat would be permanently impacted by this option. Another 5.9 acres of intertidal habitat would be impacted during construction and 4.5 subtidal acres would be dredged.

In addition to the preferred plan, two other options have been considered for flood protection within the study area. Option 1, structural local protection plans, would provide flood protection for four areas: Lynn, East Saugus, Town Line Brook, and Revere Beach Backshore. Four separate local protection projects (LPP's) would be constructed, totaling some 8.8 miles of earthen dikes and concrete walls. This option would require filling approximately 17.7 acres of wetlands and 20.2 acres of intertidal flats. Up to 10 additional acres of wetlands and 2.9 additional acres of intertidal flats would be impacted during the construction period.

Option 2 is a non-structural plan which involves floodproofing buildings, flood warning, and evacuation procedures. This is the option we recommend because it would not adversely impact fish and wildlife resources. It also has the highest benefit:cost ratio of the alternatives considered. We understand the Corps does not consider option 2 to be feasible because of the lesser level of flood protection it offers.

The study area encompasses about 4000 acres that are considered the floodplain of the estimated worst possible coastal storm, the standard project northeaster (SPN). Approximately 40 percent of the SPN floodplain consists of the Saugus-Pines River estuary, which at 1,660 acres, is the largest estuary near Boston. The estuary and its environs support a variety of fish and wildlife resources including marine and anadromous fish, shellfish and other invertebrates, and migratory birds. The Saugus-Pines River estuary and Lynn Harbor have been designated a special management area under the North American Waterfowl Management Plan because of the high habitat value for waterfowl and the eminent threat of habitat destruction, including impacts from this project. We consider the estuarine habitat potentially affected by the project to be of high value for migratory birds and both marine and anadromous fish. This habitat type is becoming scarce along the New England coast. Our mitigation goal is to allow no net loss of existing habitat value.

We have previously reported on the project in planning aid letters dated February 4, 1986, November 9, 1987, April 22, 1988, September 15, 1988, October 18, 1988, January 20, 1989, and March 7, 1989. The fish and wildlife resources of the project area, preliminary concerns with project features, and mitigation recommendations were discussed in those letters.

Despite our extensive coordination with the Corps, we continue to have significant concerns regarding the proposed project. These include: inadequate consideration of alternatives, particularly non-structural ones; the effect of the project on floodplain development and wetland protection; intertidal habitat losses from levee construction within Lynn Harbor; fish passage impacts from flow constriction at the mouth of the Saugus River; and the potential for wide-scale ecological impacts within the estuary from increased floodgate operation in the future.

Because of these unresolved issues, we cannot support the project as proposed. At this time, we can support only option 2, the non-structural plan. This option is the least environmentally damaging and would not adversely impact wetlands or fish and wildlife resources.

Non-structural Alternatives

Elements of the non-structural option should be more fully developed and the alternative expanded to include all potential non-structural flood control measures. Option 2 considered only two elements: the suitability of structures for floodproofing and an early warning and evacuation plan. It appears that these elements were not evaluated with the same level of detail as the structural alternatives. For example, the study concluded that floodproofing was impractical since only 240 buildings were found to be suitable for floodproofing measures. However, it appears that floodproofing opportunities in the study area were not fully considered, since only 2685 of the 5000 flood-prone buildings in the study area were investigated for floodproofing potential. The rationale behind this apparent difference in baseline assumptions between alternatives (e.g. how many buildings are subject to flooding) should be spelled out in the final report.

The National Flood Insurance Program (NFIP) was not considered as a non-structural alternative despite the fact that all four of the communities within the study area--Saugus, Lynn, Revere, and Malden--participate in the program. According to the Federal Emergency Management Agency (FEMA) about 1100 NFIP policies are in affect in these communities. Average annual flood damage claims under all of these policies were just under \$400,000 over the last 12 years, including 1978, the year of a 100-year storm event. This figure contrasts sharply with the Corps' estimate of over \$8,000,000 in average annual flood damages. The low flood insurance participation and damage payment rate suggest that: the occupants of the study area do not consider flooding to be a serious or chronic problem (i.e. low risk); most of the annual flood damages are not severe (i.e. nuisance flooding); or perhaps some structures are not considered worth insuring by their owners. It is also possible that the NFIP is an under-utilized resource and that opportunities exist for expanded participation/coverage as part of a non-structural flood control plan. We recommend that the various non-structural options be evaluated with the same level of detail as the structural options. Alternatives to the proposed action should be given full consideration in the final EIS to fulfill the intent of the National Environmental Policy Act.

Floodplain Management and Induced Development

We believe the project is inconsistent with the current Federal philosophy to avoid development in estuaries, coastal areas susceptible to flooding, floodplains, and wetlands. This philosophy is laid out in a number of Federal laws, executive orders, and policies. The previously referenced "Estuary Protection Act" (P.L. 90-454) was enacted by Congress in 1968 to recognize the value of estuarine areas and to establish a national policy to protect, conserve, and restore estuaries in the United States. The Coastal Zone Management Act (CZMA), was passed by Congress in 1972 (P.L. 92-583) and amended in 1976 (P.L. 94-370), following completion of three national studies which documented increasing threats to coastal resources from population growth, pollution, and large-scale coastal development. The CZMA established a national policy to preserve, protect, and where possible to restore or enhance the resources of the Nation's coastal zone, and provided assistance to states in developing comprehensive coastal management programs to carry out national policy directives. The Coastal Barriers Resources Act (CBRA) of 1982 (P.L. 97-348) was enacted by Congress in response to growing Federal expenditures to protect against hurricane storm surges and coastal flooding associated with rapidly expanding coastal development. The CBRA recognizes the importance of coastal barrier resources, including fish and wildlife, and seeks to eliminate Federally subsidized development in flood-prone coastal barrier areas. Although the study area is not specifically designated a coastal barrier under the CBRA, Congressional intent regarding the need to control Federal expenditures for coastal development is clear. The need to avoid Federally funded or subsidized projects within floodplains and wetlands is addressed in Executive Orders 11988, Floodplain Management, and 11990, Protection of Wetlands. Both executive orders require the consideration of alternatives to avoid impacts to floodplain and wetland resources.

We believe the proposed project is inconsistent with the mandate of Executive Order 11988 to discourage floodplain development and to restore and preserve the beneficial values served by floodplains. Rather than preserving or restoring floodplain values, the project would result in a reduction of the area designated as floodplain and/or redesignation to a less restrictive floodplain classification. This in turn will likely result in increased development around the perimeter of the estuary and the loss of beneficial floodplain values, including fish and wildlife habitat.

Factors that would contribute to increased floodplain development are described in both the Feasibility Report and the DEIS. These include: reduction of the FEMA base flood elevation, reduced flood insurance premiums, reduced construction and floodproofing costs, curtailment of FEMA building regulations, increased property values, and elimination of the perceived threat of major flood events.

We disagree with the claim that the floodgate plan will greatly enhance wetland and floodplain protection within the study area. The project would not change regulatory protection of the marsh. It is suggested that added protection would occur through the proposed "estuary storage protection program," which would encourage enforcement of existing wetland and floodplain regulations to protect the area needed for interior runoff storage during gate closure. Existing wetland regulations have been less than completely effective in preventing incremental wetland losses in the past and it is unlikely that they will do so in the future. Although the proposed local assurance provisions would help detect unauthorized activities, wetland filling is not prohibited by the Clean Water Act, only regulated under the Section 404 permit program. Over half of the wetland losses investigated by the Corps over the last 10 years were from permitted activities, i.e. activities authorized by the Corps. Following project construction, annual wetland losses may increase as a result of growing pressures to fill and develop wetlands. Even with the Corps' projection that the current annual wetland loss rate of 0.5 acre/year will continue, 50 additional wetland acres in the estuary storage area will be lost during the project life.

In those portions of the estuary storage area that are not wetlands, protection of runoff storage capacity would be through existing floodplain regulations. Floodplain regulations will not necessarily protect the non-wetland storage area, since they do not prohibit filling or development. As noted above, flood protection offered by the project would likely encourage development rather than discourage it. If long term protection of the estuary storage area is essential for successful project operation, we recommend that the Corps formulate a more definitive plan for protecting floodplain and wetlands within the project area, e.g. acquisition of land or flood easements.

Intertidal Habitat Losses

We continue to be concerned with the unnecessary loss of productive intertidal habitat from structural protection measures along the Lynn Harbor shorefront. This area is important not only for shellfish, such as blue mussels and soft shelled clams, but for waterfowl that feed on the rich invertebrate resources. It is our understanding that 5.6 acres of fill in intertidal habitat could be avoided through the use of either setback levees or vertical walls. A similar

reduction in impacts could be expected for option 1 if alternate structural measures were used. Less damaging alternatives have been eliminated from further consideration as they are considered cost prohibitive. However, in the cost breakdown for shorefront protection along Lynn Harbor (p.70, Feasibility Report), the average cost per foot for dikes is \$628, while the average cost per foot for walls is \$478. It appears that, on average, walls would cost less than dikes. Even if less damaging alternatives such as walls or setback levees would cost more, it is our understanding that the overall benefit:cost ratio for the regional flood control project would still remain positive if they were implemented.

In our March 7, 1989, planning aid letter, we indicated our concern over the apparent inconsistency between the Corps' planning policy of developing the National Economic Development (NED) Plan, and the purpose and policies of the Clean Water Act (CWA) and its implementing regulations such as the Section 404(b)(1) Guidelines (Guidelines). The development of less damaging practicable alternatives mandated by the Guidelines has apparently been overridden by the Corps policy of developing the least cost alternative. Development of the NED plan does not preclude the need to protect the environment. As noted in the Water Resource Council's "Principles and Guidelines", the Federal objective of water and related land resources project planning is to contribute to national economic development consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. It appears that the Corps has assumed that the NED level of benefits cannot be achieved without omitting the full cost of environmental protection. This position is contrary to the Federal objective, as national economic development must be accompanied by protection of the environment.

The use of economics as the primary planning criteria is also inconsistent with Federal laws and guidelines that call for fish and wildlife to receive equal consideration with other project purposes (Fish and Wildlife Coordination Act) and which promote a step by step mitigation process emphasizing impact avoidance and minimization before compensation (Section 404(b)(1) Guidelines, the National Environmental Policy Act, Executive Order 11990, and the Fish and Wildlife Service Mitigation Policy).

We support the concept of fully mitigating all project impacts to fish and wildlife resources. However, we cannot support the proposed compensatory wetland and intertidal mitigation plan for several reasons. First, there are practicable alternatives for avoiding impacts that would better meet the stated project objective to reduce flooding with the least possible disruption to natural resources of the study area (p.31, Feasibility Report). The proposed project does not accomplish this objective, since less damaging alternatives were identified, yet were not included in the preferred plan.

Second, there would still be a net loss in habitat for some of the important waterfowl species that utilize intertidal flats in Lynn Harbor. Lynn Harbor and the Saugus-Pines River estuary comprise the Greater Boston focus area, a special management unit designated by the Atlantic Coast Joint Venture under the North American Waterfowl Management Plan (NAWMP). The Lynn Harbor intertidal flats, important as a low tide feeding area for black duck and wintering habitat for a variety of diving duck species, are among the priority

waterfowl habitats the Atlantic Coast Joint Venture seeks to protect. We disagree with the Corps' assumption that impacts to wintering black duck would be mitigated by blue mussel colonization of the proposed rock-covered dikes. Black duck have been observed utilizing intertidal flats directly adjacent to the existing Lynn Harbor walls. Presumably the site offers a unique combination of habitat features that waterfowl find attractive. In addition to the food value of the tide flats (they are among the first exposed as the tide recedes), it is likely the adjacent walls have value as cover and offer protection from wind and weather under certain conditions. The sloping dike face would be more exposed and would not offer similar cover benefits. It would also not support the same invertebrate communities as the existing tide flats. We have no reason to expect ducks that presently feed on intertidal flats would forage equally well among the rock riprap. We also would not expect waterfowl and other migratory birds to just simply move over to the mitigation site in the Seaplane Basin after their habitat is eliminated in Lynn Harbor.

Protection of Atlantic Coast habitat for black duck is identified in the NAWMP as an international priority. The Cooperative Agreement between the Department of the Interior and the Department of the Army regarding Waterfowl Habitat Conservation at Civil Works Projects calls for the Army to work with the Service in the planning of new civil works projects to avoid or minimize impacts to waterfowl habitat, consistent with the Fish and Wildlife Coordination Act and the goals of the NAWMP. Our recommendation for mitigating impacts to black duck habitat in Lynn Harbor is to completely avoid habitat loss by selecting a less damaging alternative.

Finally, we are not convinced that all functional values of project-impacted wetlands can successfully be duplicated with any predictable degree of success. Wetland creation in the regulatory arena has a less than perfect success record. Strict reliance on a 1:1 habitat replacement ratio supposes that the replacement habitat will be equal in all respects to habitat destroyed by the project. We have already shown that waterfowl habitat values will not be equal. Since we believe it is not possible to guarantee that all habitat values will successfully be recreated, we will continue to recommend a minimum 2:1 compensatory mitigation ratio to allow for a reasonable margin of safety.

Fish Passage

The proposed floodgate has been modified during the planning process to alleviate many of the environmental problems of earlier designs. As noted in our previous comments, our remaining concern is with the potential for fish passage impacts from the constriction of tidal flow at the mouth of the Saugus River. The proposed design would constrict daily tidal flows through the flushing gates when water levels are above the 0.0 foot elevation of the upper gate openings, causing pressure flow conditions. As a result, planktonic fish eggs, larvae, and weak swimming juveniles may be impinged or otherwise damaged as they are forced through the gate openings under pressure. Organisms may also be injured or experience increased predation following contact with shear zones associated with turbulent eddies formed by flow constriction. Early life stages of winter flounder and rainbow smelt may be affected during ebb tides; Atlantic herring during flood tides.

A related concern is that the structure may hinder the passage of surface oriented fish, since the upper portion of the water column would be obstructed at tide levels above 0.0 feet. Vertical distribution in the water column can be important for fish migration. Some species are known to use tidal currents in the upper water column for transport between estuarine and marine waters.

The Feasibility Report indicates that rounded gate openings would be considered during the design of the floodgate to aid in smooth flow transition through the gates. In addition to using rounded gate openings, we recommend that the floodgate structure be designed to allow unrestricted tidal exchange throughout the water column at all of the flushing gates. This should substantially reduce the potential for fish passage/impingement impacts.

Finally, the issue of the elevated sill on the navigation gate is unresolved. We recommend that the sill for the navigation gate be flush with the river bottom, similar to the flushing gates, to facilitate demersal fish and lobster passage. If the bottom of the gates cannot be made flush with the river bed, we recommend that an inclined apron be used to aid fish passage over the vertical gate sill.

Future Conditions

One of our initial concerns with the proposed floodgate design was the potential for wide-scale estuarine impacts from changes in tidal flushing and water quality parameters under both open and closed gate conditions. Flushing impacts during open gate conditions have been substantially reduced by increasing the open area of the flushing gates. The potential for significant water quality impacts during closed gate conditions still exists. Impacts would be primarily associated with the retention of thermal, biological and chemical pollutants from a variety of sources within the estuary.

The Corps' conclusion that the project will cause only minor water quality impacts is based on the assumption that the floodgate would operate very infrequently (approximately 2 to 3 times per year) and that closures would be of short duration (typically 1 to 2 hours). The impact of the preferred floodgate option on the overall ecology of the Saugus-Pines River estuary will gradually increase in the future as sea level continues to rise and the floodgates are operated more frequently. It is estimated that the floodgate would close 35 to 40 times per year for 2-3 hours per closure if the historic rate of sea level rise continues over the 100-year project life (a 0.8-foot rise). The 4.2-foot sea level rise projection would result in 575-600 floodgate closures per year and a 5-6 hour duration per closure. Floodgate closure could be even more frequent under higher projections of sea level rise (EPA's "mid-high" and "high" projections are approximately 5.8 and 9.2 feet for the next 100 years, respectively).

Increasing floodgate closure frequency will result in significant impacts to the estuarine environment. As described in the DEIS, adverse impacts include: reductions in marsh sedimentation rates resulting in a decreased ability of the marsh to keep up with sea level rise; changes in the vegetative composition of the marsh from reduced frequency of tidal inundation; and impacts to water quality from increased storage of pollutants and thermal discharges and reduced dissolved oxygen and salinity levels.

As a result of rising sea levels, the number of gate closures to prevent flooding from astronomic high tides, as opposed to storm-related flooding, would gradually increase. Under present conditions, the Corps assumes that mixing from storm-related wind and wave action will help prevent water quality degradation from pollutant concentration during closed gate conditions. As routine closures to protect against astronomic high tides become more common, storm-related wind and wave mixing would not necessarily be present to mitigate the impact of confined pollutant discharges during closed gate conditions.

We are concerned that these widespread impacts to the estuarine environment could also be realized in the absence of sea level rise, depending on how the project is operated in the future. The issue of who would operate and maintain the project is presently unresolved. Avoidance of environmental impacts is dependent on adherence to strict operational constraints. Regardless of the constraints established during the planning process, changing social/political pressures over the project life may dictate different operational regimes in the future. These in turn could cause more severe impacts than those presented in the Feasibility Report for existing conditions. As long as the floodgate structure is in place, the potential for operational impacts will exist.

Non-structural solutions for reducing flood damage in the study area would best accommodate natural wetland expansion processes related to sea level rise. For this study, it is assumed that owners of developed properties surrounding the estuary would erect vertical barriers to prevent marsh expansion associated with rising sea levels. However, the point will eventually be reached when continuing to increase the height of shoreline protection will no longer be feasible. Development will be forced to pull back from the waters edge and allow salt marshes to recede. Non-structural measures would allow this landward shift in wetlands to proceed naturally, as development could be pulled back at a gradual pace to keep up with rising sea level. Implementing structural protection measures, however, would not only postpone the inevitable evacuation of coastal areas subject to sea level rise, they could make matters worse by supporting continued development within the coastal floodplain.

Given the potential for widespread impacts to the Saugus-Pines River estuary from project-induced changes in tidal flushing, we believe that large scale mitigation/enhancement measures are justified. The Corps should seriously consider breaching and or complete removal of the I-95 fill embankment to restore tidal flushing to degraded portions of the estuary. Breaching the fill embankment is mentioned throughout the Hydrology and Hydraulics Appendix as a way to mitigate estuary flushing impacts associated with the project. Providing measures to restore and enhance estuarine habitat is consistent with the stated plan formulation considerations, as well as the provisions of the Fish and Wildlife Coordination Act, the Cooperative Agreement on Waterfowl Conservation at Civil Works Projects, the "Estuary Protection Act", Executive Orders 11990 and 11988, and the Coastal Zone Management Act.

Summary

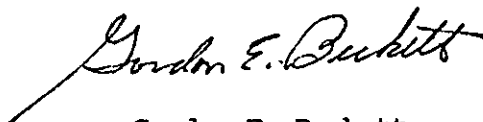
In summary, we are unable to support the preferred alternative of a floodgate and associated shoreline protection because of unacceptable local impacts from certain structural features of the project, as well as the potential for long-term impacts to the ecology of the Saugus-Pines River estuary. Although we have recommended measures to avoid or otherwise mitigate impacts from the Lynn Harbor dikes and the floodgate itself, we do not see any way to avoid long-term estuary impacts from tidal changes associated with project operation. While project-induced tidal changes may not be significant at the present time, future changes in environmental or social/political conditions could result in significant fish and wildlife impacts from increased frequency and duration of floodgate closures.

A scaled-down version of the local protection option may prove to be less environmentally damaging in the long run than the floodgate option. However, this would be contingent on the Corps' ability to either relocate proposed levees or replace them with vertical walls to avoid the wetland and intertidal encroachment of the current proposal. Implementation of either of the proposed structural alternatives would have adverse implications regarding the need to gradually pull back development from coastal areas subject to reclamation by accelerated sea level rise.

We consider the project to be inconsistent with the current Federal philosophy and public policy to avoid development in estuaries, coastal areas susceptible to flooding, floodplains, and wetlands. This philosophy and policy is laid out in a number of Federal laws, executive orders, and regulations. The "Estuary Protection Act" established a National policy to protect, conserve, and restore estuaries in the United States. The Coastal Zone Management Act established a national policy to preserve, protect, and where possible to restore or enhance the resources of the Nation's coastal zone. The Coastal Barriers Resources Act recognizes the importance of coastal barrier resources and seeks to eliminate Federally subsidized development in flood-prone coastal barrier areas. Executive Orders 11988, Floodplain Management, and 11990, Protection of Wetlands, recognize the many beneficial values of floodplains and wetlands and require that Federal agencies avoid direct or indirect support of floodplain or wetland development wherever there is a practicable alternative.

We support the use of non-structural solutions to reduce flood damages in the study area since they would not adversely impact fish and wildlife resources nor would they have the wide-ranging ecological implications of the regional floodgate alternative. We encourage the Corps to further investigate the potential for all possible non-structural flood control solutions, perhaps in combination with scaled-down or otherwise modified structural features that would not impact the important fish and wildlife resources of the project area.

Sincerely yours,



Gordon E. Beckett
Supervisor
New England Area

The Corps' Response to the U. S. Fish and Wildlife Service Final Coordination Report of May 4, 1989 appears as a separate attachment during the Agency and Public Review of the Draft Feasibility Report and EIS/EIR. The Corps Response will appear in Appendix J following the public review and completion of the Final Feasibility Report and EIS/EIR.

STATE AGENCIES

January 7, 1983

Planning Division
Basin Management Branch

Mr. Henry A. Higgot
Project Manager,
Revere Beach Reservation
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108

Dear Mr. Higgot:

I appreciate your assistance in coordinating the Revere Beach Backshore flood control study with Mr. Robert Hunt of my staff. Preliminary investigations started this past fall with field damage surveys of about 1300 residential, commercial and public properties located behind Revere Beach Reservation. Our investigations have confirmed the extent of flooding in Revere during the Blizzard of 1978 caused by wave overtopping of the Revere Beach seawall and tidal surges overflowing the banks of the Pines River.

Over the next few years the study will develop preliminary and detailed plans to protect the area from future flooding. Currently, plan formulation is underway to identify potential solutions to prevent flooding including structural improvements along the Reservation and along the banks of the Pines River.

Your continued participation and coordination in the study to help develop acceptable plans to meet the needs of the City of Revere and the MDC Reservation would be appreciated.

Mr. Robert Hunt is the project manager for the Revere Beach Backshore Study and can be contacted at (617) 647-8546.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

Copy Furnished:
Mr. Frank Stringi
Assistant Director
Department of Planning
and Community Development
City Hall
Revere, Massachusetts 02151



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254

REPLY TO
ATTENTION OF

May 18, 1984

Planning Division
Basin Management Branch

Mr. Michael J. Angieri, P.E.
Hayden-Wegman Consulting Engineers
1340 Soldiers Field Road
Boston, Massachusetts 02135

Dear Mr. Angieri:

Thank you for advising us of your flood control study for the MDC on the Townline and Linden Brooks, tributaries of the Pines and Saugus Rivers. Information available and as requested in your May 8, 1984 letter is enclosed. The only flood information available in your study area is described in the attached June 1970 report on the Saugus and Pines Rivers. The attached Roughans Point, October 1983 report in two volumes, may also be useful.

We are currently preparing to model and gage Broad Sound and the Saugus and Pines Rivers to obtain reliable tide data. This information should be available in about 12 months.

If you have any additional questions, please feel free to call me at 617-647-8508, or Mr. Robert G. Hunt, project manager for Revere studies at 617-647-8546.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

Enclosure

Copy Furnished:
Mr. Paul DiPietro
Metropolitan District Commission
20 Somerset Street
Boston, MA 02108

November 15, 1985

Planning Division
Impact Analysis Branch

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary Hoyte:

The Corps of Engineers has initiated a flood damage reduction study for portions of the communities of Lynn, Malden, Revere and Saugus, Massachusetts at the request of local officials. The attached pamphlet provides a general description of this study. Environmental reconnaissance studies are being done as a part of the preliminary planning process. Environmental studies are being initiated at this time because the study area is perceived to be an environmentally sensitive one.

We have scheduled a series of meetings with agencies having jurisdiction or expertise related to the study area. This is to confirm telephone notification to your office that a meeting on the study will be held at the Massachusetts Executive Office of Environmental Affairs (EOEA) conference room on the 20th floor at 100 Cambridge Street, Boston on Tuesday, November 19 at 10:00 a.m. The purpose of the meeting will be to describe the study and receive comments on environmental and related issues that should be considered during the course of the study. If you are interested in this study, but unable to attend the scheduled meeting, we will attempt to include you in a similar meeting at an alternate time and place or meet with you separately at your convenience. If your agency does meet with us, we would appreciate a follow-up letter.

If you have any questions, please feel free to call me at 617-647-8508. Dr. Joseph Horowitz of my staff is coordinating the environmental aspects of the study, and arrangements for the meetings. He may be reached at 617-647-8518. Mr. Robert G. Hunt is the Project Manager. He can be reached at 617-647-8216. Thank you for your interest.

Sincerely,

SAME LETTER SENT TO:
(SEE ATTACHED LIST)

Joseph L. Ignazio
Chief, Planning Division

Attachment

A copy of this letter has also been sent to the following people:

Mr. Dick Chalpin
Chief, Environmental Engineer
DEQE/Northeast Regional Office
5 Commonwealth Avenue
Woburn, Massachusetts 01801

Mr. Thomas McMahon, Director
Division of Water Pollution Control
Department of Environmental Quality Engineering
1 Winter Street
Boston, Massachusetts 02108

Director
Division of Wetlands
Department of Environmental Quality Engineering
1 Winter Street
Boston, Massachusetts 02108
ATTN: Mr. Gary Clayton

Mr. Walter E. Bickford, Director
Department of Fisheries, Wildlife and
Recreational Vehicles
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Philip G. Coates, Director
Division of Marine Fisheries
Department of Fisheries, Wildlife and
Recreational Vehicles
100 Cambridge Street
Boston, Massachusetts 02202
ATTN: Mr. Leigh Bridges

Mr. Randall Fairbanks
Asst. Director of Sport Fisheries
Division of Marine Fisheries
100 Cambridge Street, 19th Floor
Boston, Massachusetts 02202

Mr. James Fair
Asst. Director of Commercial Fisheries
Division of Marine Fisheries
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Richard Cronin, Director
Division of Fisheries & Wildlife
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Tom French
Director of Nongame & Endangered Species
Dept. of Fisheries, Wildlife & Recreational Vehicles
100 Cambridge Street, 19th Floor
Boston, Massachusetts 02202

Mr. Henry Woosley
Coordinator of Natural Heritage Program
Dept. of Fisheries, Wildlife & Recreational Vehicles
100 Cambridge Street, 19th Floor
Boston, Massachusetts 02202

Secretary James S. Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Samuel Mygatt, Director
Environmental Impact Review
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Steven Davis
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Richard F. Delaney
Director
Coastal Zone Management
100 Cambridge Street, Room 2006
Boston, Massachusetts 02202

Mr. James Gutensohn, Commissioner
Department of Environmental Management
100 Cambridge Street - 19th Floor
Boston, Massachusetts 02202

Mr. Charles Kennedy, Director & Chief Engineer
DEM - Division of Water Resources
100 Cambridge Street, 13th Floor
Boston, Massachusetts 02202

Mr. John Hannon, Director
Division of Waterways
Department of Environmental Management
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Thomas F. McLaughlin, Commissioner
Department of Environmental Quality Engineering
1 Winter Street
Boston, Massachusetts 02108

November 21, 1985

Planning Division
Impact Analysis Branch

William J. Geary, Commissioner
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108
ATTN: Julia O'Brian

Dear Mr. Geary:

The Corps of Engineers has initiated a flood damage reduction study for portions of the communities of Lynn, Malden, Revere and Saugus, Massachusetts at the request of local officials. The attached pamphlet provides a general description of this study. Environmental reconnaissance studies are being accomplished as a part of the preliminary planning process. Environmental studies are being initiated at this time because the study area is perceived to be an environmentally sensitive one.

We have scheduled a series of meetings with agencies having jurisdiction or expertise related to the study area. This is to confirm telephone notification to your office that a meeting on the study will be held at the New England Division, Corps of Engineers' Theatre, 424 Trapelo Road, Waltham, MA on Tuesday, November 26 at 10:00 a.m. The purpose of the meeting will be to describe the study and receive comments on environmental and related issues that should be considered during the course of the study. If you are interested in this study, but unable to attend the scheduled meeting, we will attempt to include you in a similar meeting at an alternate time and place or meet with you separately at your convenience. If your agency does meet with us, we would appreciate a follow-up letter.

If you have any questions, please feel free to call me at 617-647-8508. Dr. Joseph Borowitz of my staff is coordinating the environmental aspects of the study, and arrangements for the meetings. He may be reached at 617-647-8518. Mr. Robert G. Hunt is the Project Manager. He can be reached at 617-647-8216. Thank you for your interest.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

Attachment

Same letter sent to the following:

William J. Geary, Commissioner
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108
ATTN: Julia O'Brian

Mr. Robert T. Tierney, Commissioner
Department of Public Works
10 Park Plaza
Boston, Massachusetts 02116
ATTN: Frank Bracaglia

Diana Ortiz - Assistant Secretary
Department of Communities & Development
100 Cambridge Street - 11th Floor
Boston, Massachusetts 02202

Evelyn F. Murphy - Secretary
Executive Office of Economic Affairs
1 Ashburton Place
Boston, Massachusetts 02108

Commissioner Paul J. Tortolani
Department of Commerce & Development
100 Cambridge Street - 13th Floor
Boston, Massachusetts 02202

Frederick Salvucci
Secretary, Executive Office of Transportation
& Construction
10 Park Plaza, Rm. 3510
Boston, Massachusetts 02116

Metropolitan Area Planning Council
Joel E. Bard, Assistant Director
110 Tremont Street
Boston, Massachusetts 02108

Mr. Sheldon Gilbert
Regional Environmental Officer
U.S. Department of H. U. D.
15 New Chardon Street
Boston, Massachusetts 02114

Mr. David Clark
Environmental Compliance
North Atlantic Region
National Park Service
15 State Street
Boston, Massachusetts 02109

Superintendent - Saugus Iron Works
National Historic Society
244 Central Street
Saugus, Massachusetts 01906

Mr. Bill Patterson
Department of the Interior
1500 Custom House
165 State Street
Boston, Massachusetts 02109

Mr. James A. Walsh - Division Administrator
Federal Highway Administration
Transportation Systems Center
55 Broadway - 10th Floor
Cambridge, Massachusetts 02142

Mr. Edward B. Hassel - Regional Director
Federal Railroad Administration
Transportation Systems Center
55 Broadway - 10th Floor
Cambridge, Massachusetts 02142

Mr. Ivan James - District Chief
U.S. Geological Survey
1500 Causeway Street, Suite 1309
Boston, Massachusetts 02114

Mr. Kaselis - Environmental Specialist
Commander (DPL) First Coast Guard District
150 Causeway Street
Boston, Massachusetts 02114-1396

Mr. John Willey
First Coast Guard District
150 Causeway Street
Boston, Massachusetts 02114-1396



PHILIP G. COATES
DIRECTOR

The Commonwealth of Massachusetts

*Division of Marine Fisheries
Leverett Saltonstall State Office Building
100 Cambridge Street
Boston, Massachusetts 02202*

727-3193

November 20, 1985

Mr. Robert G. Hunt, Project Mgr.
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Mr. Hunt,

Enclosed please find a copy of our 1972 Estuarine Survey Monograph of the Lynn-Saugus Harbor Estuary. Although the data is somewhat dated, I am sure it will be helpful in providing baseline information and a historical perspective of the area. Any questions you may have relating to the shellfish resources of the area or potential effects of the proposed project on those resources should be directed to Mike Hickey at 888-4043.

As I stated at the November 19th meeting, our main concerns will be loss of marsh and/or shellfish habitat, effects on anadromous fish, and changes in the hydrology of the system which result in slower flushing of contaminants, changes in tidal amplitude, or changes in water quality, especially salinity.

Very truly yours,


James J. Fair, Jr.
Assistant Director

JJF/lt

A STUDY OF THE MARINE RESOURCES of LYNN — SAUGUS HARBOR

*Arthur P. Chesmore, David J. Brown
and Robert D. Anderson*

MARCH, 1972



Monograph Series
Number 11

DIVISION OF MARINE FISHERIES
Department of Natural Resources
The Commonwealth of Massachusetts

ECONOMIC VALUES

The minimum value derived from the utilization of the marine resources of Lynn — Saugus Harbor during 1968 was \$279,493 (Table 21). Commercial fishing for lobsters, sea worms and soft shell clams accounted for 63.2% (\$176,689) of the total income while sport fishing activities accounted for 36.8% (\$102,804). An estimated \$96,084 was lost during 1968 resulting from harvest restrictions on approximately 8,007 bu of contaminated soft shell clams.

Minimum value of the 1968 Lynn — Saugus Harbor sport fishery was \$102,804. However, the 1965 sport fishing survey indicated an average expenditure of \$8.34 per salt water fishing trip. Using this cost, the 37,718 sport fishing trips from Lynn — Saugus Harbor amounted to an expenditure of \$314,568.12. Combining this expanded value for the sport fishery with the minimum value of the commercial fisheries (\$176,689) an estimated \$491,257.12 was realized from the utilization of the marine resources of Lynn — Saugus Harbor during 1968.

Based on the expanded resource value (\$491,257.12) the minimum marine fisheries revenue yield/surface acre (MHW) for the study area was estimated at \$69.79.

Table 21. *Minimum Economic Values of Marine Fisheries Resources in Lynn — Saugus Harbor, 1968 — 1969.*

<i>Sport Fishery</i>	
Party and charter boat fees	\$69,564
Skiff rental fees	27,720
Launching ramp fees	5,520
Sub-total	\$102,804
<i>Commercial Fisheries</i>	
Lobsters	\$147,394
Soft shell clams	7,795
Sea worms	21,500
Sub-total	\$176,689
GRAND TOTAL	\$279,493

SUMMARY

A minimum of \$147,394 was derived from the commercial harvest of lobsters in the Lynn — Saugus Harbor area during 1968. An estimated \$21,500 was realized from sea worm harvest and \$7,795 was derived from soft shell clams harvested from the intertidal flats of the study area.

Thirty-one species of finfish, totalling 4,210 individuals, were collected during sampling operations at five shore and four offshore stations. Finfish species sought by sport fishermen include winter flounder, Atlantic cod, haddock, mackerel, striped bass and pollock. An estimated \$102,804 was spent

by approximately 37,718 sport fishermen utilizing party and charter boats, rented skiffs and boat launching facilities.

Twenty species of algae and 14 species of vascular plants were collected from the waters and salt marshes of the study area. The Lynn — Saugus area contains 1,269 acres of salt marsh.

The total estimated minimum economic value derived from the utilization of the marine fisheries resources of Lynn — Saugus Harbor amounted to \$279,493. The estimated expanded value was \$491,257.12.

RECOMMENDATIONS

The following recommendations are made to aid in the management and wise utilization of the marine resources of Lynn — Saugus Harbor. It is recommended that:

1. ...the salt marshes and tidal flats of the study area be protected from alteration and destruction because of their habitat, and for their food chain contributions which are vital to finfish and shellfish populations.

2. ...all salt marsh within the study area be placed under the protection of the Coastal Wetlands Act (Chapter 130, Section 105).

3. ...regulations and abatement schedules be enforced curtailing discharge of untreated domestic sewage and industrial waste into the waters of Lynn — Saugus Harbor and that water quality standards of SA and SB be met as soon as possible.

4. ...the Division of Environmental Health, Massachusetts Department of Public Health, continue to monitor water and shellfish for the presence of coliform bacteria; and finfish, shellfish and water for pesticide and heavy metal residues. This should be part of a continuing study along the entire coastline of Massachusetts.
5. ...an all-tide boat launching ramp and parking

facility be constructed within Lynn — Saugus Harbor in the vicinity of Beachmont.

6. ...fishing piers and public access be constructed in Lynn — Saugus Harbor in the areas of Bass Point, Nahant and Grovers Cliff, Winthrop.
7. ...by 1978, Lynn — Saugus Harbor be restudied and the findings be compared to this report.

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The Commonwealth of Massachusetts
Division of Fisheries and Wildlife
Field Headquarters, Westboro 01581

December 12, 1985

Joseph L. Ignazio
U.S. Army Corp^s Engineers
New England Division
424 Trapelo Road
Waltham, MA 02254

Dear Mr. Ignazio:

The Massachusetts Division of Fisheries and Wildlife wishes to reiterate the points made at the 19 November 1985 meeting the Corp held in Boston on the proposed Saugus River flood protection plan. Namely, that remaining wetlands in Massachusetts are all valuable and any plans to protect structures built on flood plains should not be at the expense of salt marsh habitat. Any dikes or walls should be placed on upland sites. The system proposed in option 1 would convert a 20-50 foot wide belt of salt marsh 12½ miles long into earth or concrete. This is an extensive destruction of salt marsh and will impact the ecology of an even larger area. I do not believe it will eliminate any illegal filling that may currently be going on.

We would prefer seeing Option 2 but believe Option 3 would be preferable to Option 1 since it would minimize impact on salt marsh ecology with minimal habitat destruction.

Sincerely,

A handwritten signature in cursive script, appearing to read "H W Heusmann".

H W Heusmann
Waterfowl Biologist

HWH:emc



The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

100 Cambridge Street

Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

December 13, 1985

Joseph L. Ignazio, Chief
Planning Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02154

Re: Saugus River Flood Damage Reduction Study

Dear Mr. Ignazio:

We appreciated the opportunity to meet with your staff and consultants on November 19, 1985. Such early coordination between Federal and Commonwealth agencies is as rare as it is beneficial. As requested at that meeting, we have assembled our comments on the proposed Saugus River Flood Damage Reduction Study. These include comments on possible data sources, Commonwealth regulatory programs, recommendations for analyses, and specific comments on the three major alternatives discussed at the meeting.

Data Sources - The MEPA files contain several Environmental Impact Reports with information of potential use in your studies. In addition, our current project list includes several new waterfront projects that may both add to the potential for damages in future storms and be impacted on by some of the proposed alternatives. We would be pleased to discuss these projects and files with your staff or consultants as the study proceeds.

Regulatory Programs - Several of the alternative actions under consideration may require waterways license review (310 CMR 9), wetlands review (310 CMR 10), Coastal Zone Management review (301 CMR 20-22), and MEPA review (301 CMR 10). The MEPA Unit may be of assistance in coordinating these reviews, as and when required.

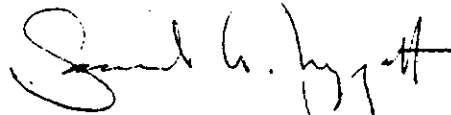
Analyses - We would recommend the development and calibration of a salinity model to supplement your proposed hydraulic modeling effort. This would allow accurate determination of the effects of the alternatives on the salt balance of the estuary. In addition, a thorough mapping of wetlands potentially affected by the project, along with their type, health, and successional status,

should be undertaken early in the process to guide decision making and identify areas of potential impact.

Alternatives - Floodproofing appears to offer the least potential for environmental impact, but may not offer cost effective damage reduction. The local protection alternative appears to have the greatest potential for impacts to wetlands, unless the barrier structures can be moved landward to avoid fill in and disturbance to wetlands. The barrier alternative may offer the most complete flood protection, but also has the greatest potential to affect the dynamics of the estuary.

I hope that these comments are of use to you in preparing for the Saugus River Flood Damage Reduction Study. The MEPA Unit stands ready to assist you in data acquisition, regulatory matters, and review of work in progress. We look forward to continued cooperation on this most important effort. Please telephone me at 727-5830 if we can provide further information.

Sincerely,



Samuel G. Mygatt, Executive Director
Environmental Impact Review

SGM/SCD/sd



The Commonwealth of Massachusetts
Metropolitan District Commission
Parks Engineering and Construction Division
20 Somerset Street, Boston 02108

December 19, 1985

Mr. Joseph Ignazio
Chief Planning Division
U.S. Army Corps of Engineers
424 Trapelo Rd.
Waltham, MA 02154

Re: Flood Damage Reduction Study
Saugus River and Tributaries

Dear Mr. Ignazio,

Mr. DiPietro and Mr. Higgott of this section provided me with comments which were mentioned at Corps meetings they attended on the above referenced project.

Mr. DiPietro is cognizant of the fact that certain groups are insistant that State and local environmental permits and licenses be obtained for projects having Federal participation and suggests that a local group or State agency be identified to be the point of contact, and requests that the Secretary of Environmental Affairs Office be the primary contact for now. Also, Mr. DiPietro states that in this State, there is a major problem in the disposal of contaminated materials either excavated or dredged and that other State and Federal regulations must be adhered to. Should any of the projects structures be constructed in contaminated areas there would be a hidden cost in the ultimate removal and disposal of these materials. He suggests in locations where structure excavations are required, soils investigators be aware of this potential problem especially in areas subject to landfill leachate.

If we can be of further assistance please contact this office at 727-6845.

Very truly yours,

A handwritten signature in cursive script, reading "Robert J. Valinote".

Robert J. Valinote P.E.
Supervisor, Water Resources
Engineering Section

FD/mh

cc: R. Signore, Director
P. DiPietro
H. Higgott



January 2, 1986

Mr. Joseph Horwitz
Planning Division
New England Division, Corps of Engineers
424 Trapelo Rd.
Waltham, MA 02254

RE: Flood Damage Reduction Study
Lynn, Malden, Revere, and Saugus, MA

Dear Mr. Horwitz,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare plants and animals and exemplary natural communities within the study area for the Saugus River and Tributaries Flood Damage Reduction Project. At this time, we are not aware of any rare species in this area.

As you requested, I have examined our records for the Piping Plover (Charadrius melodus). The nearest breeding colonies are in Ipswich to the north and Scituate to the south. Terns (Sterna sp.) have nested on Snake Island in Winthrop, but this locality is miles from the study area.

Please note that locations of rare species should not be made public in order to protect populations and habitats from inadvertent damage. Also, as our inventory expands with ongoing fieldwork and research, more data on this area may become available in the future.

For your reference, I am enclosing a Program Description, and Lists of Rare and Endangered Plants and Animals. Please feel free to contact me if I can be of further assistance.

Sincerely,

Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm
Encl.



S. RUSSELL SYLVA
Commissioner

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Water Pollution Control
Technical Services Branch
Westview Building, Lyman School
Westborough, MA 01581

February 3, 1986

Dr. Joseph Horowitz
Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Dr. Horowitz:

The Department's Division of Water Pollution Control has reviewed the description of the flood damage reduction study for portions of the communities of Lynn, Malden, Revere, and Saugus, Massachusetts along the Saugus and Pines Rivers. The Department is concerned with water quality of the rivers and estuaries to make sure they meet the water quality standards and classification assigned to the rivers.

Both the Saugus and Pines Rivers are classified as SB waters with designated uses as a marine fishery, shellfishing and primary and secondary recreation. Water quality criteria for class SB waters are listed below.

For Class SB waters:

<u>Parameter</u>	<u>Criteria</u>
1. Dissolved Oxygen	Shall be a minimum of 85 percent of saturation at water temperatures above 77°F (25°C) and shall be a minimum of 6.0 mg/l at water temperatures of 77°F (25°C) and below.
2. Temperature Increase	None except where the increase will not exceed the recommended limits on the most sensitive water use.
3. pH	Shall be in the range of 6.5-8.5 and not more than 0.2 units outside of the naturally occurring range.

<u>Parameter</u>	<u>Criteria</u>
4. Total Coliform Bacteria	Shall not exceed a median value of 700 MPN per 100 ml and not more than 20% of the samples shall exceed 1000 MPN per 100 ml during any monthly sampling period, except as provided in 314 CMR 4.02(1).

To date the Division has conducted two water quality surveys within the Saugus and Pines River (1976 and 1982). Copies of these reports have been sent to the Army Corps of Engineers. If additional copies are needed, please feel free to contact me in Westborough (366-9181).

The Department feels the main problem with options one and three in the proposal is the impact on the wetlands. These concerns should be addressed by the Department's Division of Wetlands Northeast Region. Direct all questions to John Felix (617/935-2160).

Any alteration of the natural course of flow for the rivers will change the currents and stream flow. This could cause settling of solids in backwaters, thus filling in the wetlands and stream channels or cause scouring and sediment resuspension where new currents and backwaters are created. Furthermore, a change in saltwater - freshwater mixtures could cause a change in biological habitats and communities. If death or decay of living organisms occurred, water quality degradation could occur.

If option one is implemented, National Pollutant Discharge Elimination System (NPDES) permits will be required at all pumping stations. Glenn Gilmore or Sharon Jones in the DEQE Boston office of the Division of Water Pollution Control, Permits Section can provide the necessary information concerning the permit process.

Therefore, the Division of Water Pollution Control is mainly interested in water quality conditions and the change in water quality and biological impacts that would result with an alteration of the natural and current environment.

If you have any further questions regarding this study please feel free to contact me. John Felix in the Division of Wetlands should also be contacted during the scoping process.

Sincerely,

Margo T. Webber

Margo T. Webber
Assistant Sanitary Engineer

MTW/kt

cc: John Felix, DEQE Northeast Region
Glenn Gilmore



The Commonwealth of Massachusetts
Metropolitan District Commission
20 Somerset Street, Boston 02108

MEPA
cc:
Delehey
JAMIE

WILLIAM J. GEARY
COMMISSIONER

RECEIVED

FEB 18 1986 February 7, 1986

OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

RECEIVED

FEB 18 1986

Mr. James S. Hoyte, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS

Re: U.S Army Corps of Engineers Flood Damage Reduction Study, Saugus
River and Tributaries

Dear Jamie:

Our Engineering and Construction Division was briefed by the Army Corps regarding this proposed project study at several meetings. As you are aware we have completed and have ongoing flood control projects in the Revere area. This study may show significant cost savings to the Commonwealth by providing tidal flood protection over a more wide spread area than the construction of smaller local protection projects.

We encourage the endeavors of this study and support the long range flood reduction benefits to residents and M.D.C. properties in the affected area.

Very truly yours,

William J. Geary
Commissioner

PJD/nem

cc: Richard R. Signore, Dir. Parks Eng. & Constr.
R. Valinote, P.E. Supervisor Water Resources Section

9/11/86

Permission rec'd from Paul DiPietro, MDC (originator) to use letter in report.



S. RUSSELL SYLVA
Commissioner

The Commonwealth of Massachusetts
Department of Environmental Quality Engineering
Metropolitan Boston - Northeast Region
5 Commonwealth Avenue
Woburn, Massachusetts 01801

935-2160

February 12, 1986

Dr. Joseph Horowitz
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02154

RE: Flood Reduction Study
Saugus River/Tributaries
Wetland Concerns

Dear Dr. Horowitz:

As per your request, the Wetlands Division of the Department of Environmental Quality Engineering is submitting comments regarding the Army Corps of Engineer's flood damage reduction study currently underway for the Saugus River and its tributaries. An overview of the flooding problem and various options being considered by the ACE to address local flooding issues were presented at a meeting sponsored by your agency on January 8, 1986.

The ACE is presently considering three main options to deal with flooding problems in four communities that border the Saugus River or its tributaries. The options were outlined in an October, 1985 publication entitled "Project Information: Flood Damage Reduction Study, Saugus River and Tributaries". Option #1 would involve the construction of earth dikes or concrete walls to prevent coastal waters from flooding five specific areas along the Saugus River. Option #2 would reduce vulnerability to flooding by raising or floodproofing buildings, implementing a flood preparedness plan and using other "non-structural" means to prevent or reduce flood damage. Option #3 is a "Comprehensive Plan" that would involve the construction of a tidal barrier across the Saugus and/or Pines River. This option would also require the construction of navigation gates, flushing gates and a pump station.

Following review of the three options, it is the Department's opinion that Option #2 would result in least impact on the interests identified in the Wetlands Protection Act. Options #1 and #3 would probably result in significant alteration of a number of coastal resource areas; including Salt Marsh, Coastal Bank, Barrier Beach, Coastal Dune, Coastal Beach, Land Under the Ocean and possibly Land Containing Shellfish. The Department, in recognizing the local flooding problem, would favor Option #2 or any other option that would result in the least amount of destruction/alteration of the resource areas identified in the Wetlands Protection Act. The Department would also favor any option that would restrict further development in areas prone to coastal flooding.

Please be advised that some of the activities that would probably be involved in Options #1 and #3 would probably require a waiver of the Wetlands Regulations by the Commissioner of the Department. Activities such as the alteration of more than 5000 square feet of bordering vegetated wetlands or any alteration of salt marsh are prohibited unless a Variance is granted by the Commissioner.

The Department hopes these comments are helpful in your assessment of the various options being considered. If you have any further questions, please do not hesitate to contact Mr. John Felix at 935-2160.

Sincerely,



William A. Krol, P.E.

Deputy Regional Environmental Engineer

WAK/jf/cd



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

February 19, 1986

Colonel Thomas A. Rhen
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

RE: Flood Damage Reduction Study: Saugus River and Tributaries


Dear Colonel Rhen:

As a result of my recent meeting with you and members of your staff at which we discussed your activities regarding the Flood Damage Reduction Study, for the Saugus River and Tributaries, I have briefly discussed the proposal with members of my departments.

This Office supports the Corps' continued efforts to generate extensive environmental baseline data to assess the extent of flood damage in the affected communities and to determine if flood damage reduction options can be implemented while minimizing impacts to the valuable Saugus marsh resource area. I have directed my departments to cooperate with your staff in supplying information regarding your endeavor.

In general, the Commonwealth prefers nonstructural flood damage reduction solutions, such as floodproofing, which clearly pose lesser environmental impacts. As your proposal develops, more substantive data will become available that will allow for a comprehensive assessment of the proper remedial option.

Sincerely,


James S. Hoyte
Secretary

JSH/JO/gb



Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Management

100 Cambridge Street
Boston
Massachusetts
02202

Division of
Water Resources

February 21, 1986

Mr. Joseph L. Ignazio, Chief, Planning Division
New England Division
Corps of Engineers
424 Trapelo Road
Waltham, MA 02254

Re: Flood Damage Reduction
Study Saugus River and
Tributaries

Dear Mr. Ignazio:

Mr. Joe Horowitz asked me by phone to comment in writing on the above referenced project for which we had a meeting with other state agencies on Wednesday, January 8, 1986. My position with the Division of Water Resources is that of Senior Planner for the Flood Hazard Management Project a federally funded program affiliated with the National Flood Insurance Program. My comments therefore reflect those issues relating to the National Flood Insurance Program.

Clearly there is a need to address flooding issues in the target area. According to literature I received from the Federal Emergency Management Agency the following numbers of flood insurance policies are in effect charging the indicated premiums, as of December 21, 1986.

Charles F. Kennedy
Director & Chief Engineer

Mr. Joseph L. Ignazio
Page Two
February 21, 1986

<u>Community</u>	<u>Total Policies</u>	<u>Written Premium</u>
Lynn	17	\$ 29,828.00
Malden	37	9,096.00
Revere	1,008	241,735.00
Saugus	155	37,857.00
Total	1,217	318,516.00

This information indicates the annual amount of money spent by property owners for flood insurance. If structures were constructed to retard flooding a revaluation of flooding likelihood would be necessary which would reduce the premium costs to policy holders.

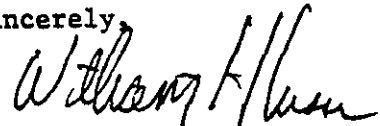
Nonstructural plans which might be effective should include a Flood Insurance "Promotions Effort" to alert property owners to the availability and benefits of flood insurance.

Much of the National Flood Insurance Program's community assistance would be considered "nonstructural plans." As I indicated at the above referenced meeting I could provide information on such planning if necessary.

An additional impact of the proposed project would be the ability of fishermen to pass freely along the Saugus River in the event of a flooding situation.

Please contact me if I may be of additional assistance.

Sincerely,



William H. Lesser
Senior Planner

WHL:rr



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

Planning Division

1 MAY -1986

Mr. James S. Hoyte, Secretary
Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary Hoyte:

Thank you for your February 19, 1986 letter, supporting the Corps' continued study effort for the Flood Damage Reduction Study: Saugus River and Tributaries. We appreciate the spirit of cooperation that has been demonstrated by the State agencies during our early coordination efforts.

On Tuesday, April 22, 1986, members of my staff (Messrs. Horowitz, Hunt, Pronovost, and Bellmer) met with Messrs. Sam Mygatt and Dave Shepardson of MEPA and Jim O'Connell and Jeff Benoit of the CZM office concerning plans for coordinated environmental analysis and review pertinent to the study effort (see attached agenda). Several important points were discussed which the attendees agreed would best be brought to your attention. They are as follows:

I appreciate your designation of Mr. O'Connell of the CZM office as a focal point for our coordination with agencies of the Commonwealth. My staff finds him to be clearly dedicated to the spirit of cooperation that we both wish to embrace. Could you confirm his designation in writing, and identify his areas of responsibility and authority?

In order to proceed with a combined MEPA/NEPA process, we have been informed by MEPA that a project sponsor/proponent must be named at this time. We therefore request assignment of a State agency to serve in this capacity.

In order to effectively coordinate with the State agencies, and facilitate communications, through Mr. O'Connell, it would be helpful if you could indicate the agencies that would be appropriate for ongoing coordination and identify an official contact for each agency.

If you have any questions, please feel free to call me at 617-647-8220. Mr. Robert G. Hunt, the Project Manager (647-8216) and Dr. Joseph L. Horowitz, the Environmental Manager for the project (647-8518) also stand ready to assist with questions you or your staff may have.

I would appreciate if you could reply to this letter by June 1, 1986, so that we may proceed with the coordinated study effort. Thank you again for your interest in this project.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copies Furnished:

Mr. Jim O'Connell
Massachusetts office of Coastal Zone Management
100 Cambridge St.
Boston, Massachusetts 02202

Mr. Sam Mygatt
Executive Director
Environmental Impact Review
100 Cambridge Street
Boston, Massachusetts 02202

New England Division (NED), Corps of Engineers
Flood Damage Reduction Study
Saugus River and Tributaries
Lynn, Malden, Revere and Saugus, Massachusetts

Agenda for Meeting between NED and Commonwealth of Massachusetts
Primary Contact Agencies (CZM and MEPA)
Concerning Plans For
Coordinated Environmental Analysis and Review

1. Introduction and meeting objectives.
2. Brief review of study features.
3. Environmental work and coordination efforts to date.
4. Major environmental questions that need to be answered.
5. Feedback from CZM, MEPA on the study as currently envisioned.
6. What we hope to accomplish in the continued study effort.
7. Proposed joint NEPA/MEPA process.
 - A. Administrative flow - contact people
 - B. Division of responsibilities
 - C. Plans for development of a Memorandum of Agreement
 - D. What agencies should be included
 - E. Bimonthly Federal/State coordination meetings
 - F. Bimonthly Citizen Group meetings
8. Schedule followup actions/next meeting.



The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

100 Cambridge Street

Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

June 16, 1986

Colonel Thomas A. Rhen
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254-9149

Re: Flood Damage Reduction Study: Saugus River and Tributaries

Dear Colonel Rhen:

Thank you for your May 1, 1986 letter which was written in response to the April 22, 1986 meeting between members of your staff, the MEPA Unit, and MCZM regarding the Corps' proposed Flood Damage Reduction Study for the Saugus River and Tributaries. Several points were discussed at that meeting and were brought to my attention.

First, I would like to reiterate, as I have stated in my February 19, 1986 letter to you, that this Office continues to support the Corps' efforts to generate environmental baseline data for this study. My Office stands ready to cooperate with your staff in supplying information that we have on hand regarding your endeavor.

In response to your request for the assignment of a State agency as a project sponsor/proponent, it is our opinion that state agency sponsorship is not appropriate at this time. It is more appropriate that the communities which are affected by the extensive flooding, and who may benefit from a selected option, become vested in the project as proponents at this early point in the study. State sponsorship may be appropriate at a future date when more substantive data becomes available to assess the implementation of the proper remedial option. We advocate that you continue to work with MEPA to establish a combined MEPA/NEPA process as was discussed with Mr. Mygatt and Mr. Shepardson.

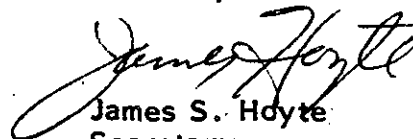
Mr. Jim O'Connell will continue to be the focal point of coordination which is his usual role within MCZM as Project Review Coordinator. His responsibility is to assure that projects undergoing review by MCZM have complied with all statutory state agency requirements. Due to the magnitude of this proposal and the potential impacts, MCZM will be a major participant in the process of accumulating the on-going comments and all of the required state permits. He will be able to assist you in facilitating coordination among the various agencies in generating the necessary information. It may be more prudent, however, when seeking specific information to contact the appropriate state agency directly. To facilitate effective coordination,

Colonel Thomas A. Rhen
June 16, 1986
Page 2

Mr. O'Connell should receive copies of all correspondence between the Corps' and the State regarding this project. The attached sheet lists the appropriate personnel for agencies within the Executive Office of Environmental Affairs who will be the contact for the review of this project.

We look forward to working closely with the Corps' in generating the baseline data necessary to adequately assess the options proposed for this project.

Sincerely,



James S. Hoyte
Secretary

JSH/JO/sla
Attachment

cc: Bob Hunt, COE
Joe Horowitz, COE
Richard Delaney, Director, MCZM
Sam Mygatt, Director, MEPA
Philip Coates, Director, Div. of Marine Fisheries
Jack Hannon, Director, DEM-Div. of Waterways
Thomas McMahon, Director, DEQE-Div. of Water Pollution Control
Gary Clayton, Director, DEQE-Div. Wetlands & Waterways Regulation
Richard Cronin, Director, Div. Fisheries & Wildlife
Charles Kennedy, Director, DEM-Div. Water Resources

**Flood Damage Reduction Study, Saugus River and Tributaries -
EOEA Agency Contacts:**

Coastal Zone Management (CZM)	Jim O'Connell Jeff Benoit	727-9530 727-9530
Mass. Environmental Policy Act (MEPA) Unit	Sam Mygatt Dave Shepardson	727-5830 727-5830
Department of Fisheries, Wildlife and Environmental Law Enforcement : Division of Fisheries and Wildlife : Division of Marine Fisheries	H.W. Heusmann Jim Fair	366-4470 727-3193
Department of Environmental Management : Division of Waterways : Division of Water Resources (Flood Hazard Mitigation)	Charles Lawson Bill Lesser	740-1600 727-3267
Department of Environmental Quality Engineering (DEQE) : Division of Wetlands & Waterways Regulation : Division Water Pollution Control - Westborough Tech, Services - Boston Office : Division of Wetlands	Charles Natale Margo Webber Judy Perry John Felix	292-5700 366-9181 292-5655 935-2160
Metroplitan District Commission	Henry Higgott	727-7220



COASTAL ZONE
MANAGEMENT

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

June 19, 1986

Robert Hunt, Project Manager
U.S. Army Corps of Engineers
N.E. Division
424 Trapelo Road
Waltham, Massachusetts 02254-9149

Re: Flood Damage Reduction Study: Saugus River and Tributaries

Dear Mr. Hunt:

The Massachusetts Coastal Zone Management Office has reviewed the Project Information brochure for the above-referenced project. In addition to a review of this document, members of my staff have attended several informational meetings conducted by Corps personnel. Your efforts to involve state agencies early in the review process are to be commended. We look forward to this kind of close coordination between the Corps and our office on future endeavors.

As Secretary Hoyte stated in his letter dated February 19, 1986, the Commonwealth supports the collection of environmental baseline data and the assessment of potential flood damage within the Saugus River estuary. Evaluation of this information will provide the Commonwealth with the proper basis upon which a preferred flood reduction option can be chosen. In several of the information meetings, MCZM has raised general concerns regarding the three preliminary flood damage reduction options. I would like to briefly reiterate those concerns.

Option 1. Structural Local Protection Plan - The proposed construction of about 12.5 miles of dikes, walls and revetments could impact as much as 38.5 acres of wetland. This would raise serious conflicts with the Coastal Regulations of the Wetlands Protection Act (M.G.L. c.131, s.40) and the MCZM Program Policies.

Option 2. Nonstructural Plans - Where possible, the Commonwealth supports the use of nonstructural means to alleviate flood damage. Floodproofing of homes and businesses, in concert with the installation of a flood warning system should be closely examined.

Robert Hunt, Project Manager
June 19, 1986
Page 2

Option 3. Comprehensive Plan - The construction of tide gates across the Saugus or Pines River will require very detailed investigations into the impacts which may occur to the estuary. Included in the analysis will be such concerns as flushing characteristics, sediment resuspension and dispersal patterns, salinity and D.O. changes, and navigation impacts.

This Office is committed to working closely with the Corps on this and future projects. Please do not hesitate to contact either myself or Mr. Jim O'Connell at 727-9530 if you have any questions.

Sincerely,



Richard F. Delaney
Director

RFD/JB/sla



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

March 11, 1987

Planning Division
Impact Analysis Branch

Secretary of Environmental Affairs
100 Cambridge Street-20th floor
Boston, Massachusetts 02202
Attn: Mr. David Shepardson, MEPA Unit

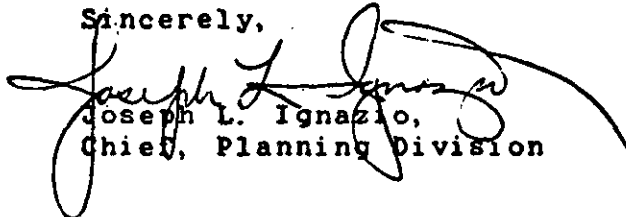
Dear Mr. Shepardson:

The New England Division, Corps of Engineers, is pleased to submit the enclosed Environmental Notification Form for the Saugus River and Tributaries, Flood Damage Reduction Study on behalf of the communities of Lynn, Malden, Revere, and Saugus, Massachusetts.

Under separate cover, I am providing a Project Information binder and a binder of all Project Correspondence. These are working documents which will be used and kept updated by study participants as the study progresses.

The Corps looks forward to working with MEPA on this study and preparing the combined EIR/EIS. If you have any questions, please feel free to call me at (617) 647-8508. Mr. Joseph Horowitz, the Environmental Manager (647-8518) and Mr. Robert Hunt, the Project Manager (647-8216) can both be contacted for additional information.

Sincerely,


Joseph L. Ignazio,
Chief, Planning Division

Enclosure

COPIES FURNISHED TO:

Mr. James O'Connell *w/ENF and both Binders*
Massachusetts Coastal Zone Management
100 Cambridge Street, 20th Floor
Boston, MA 02202

Mr. Stephen L. Smith *w/ENF*
Assistant City Planner
Planning Dept., Rm. 106
City Hall, Lynn, MA 01901

Mr. Henry J. Mulhern *w/ENF*
Executive Director
Malden Redevelopment Authority
Government Center
200 Pleasant Street
Malden, MA 02148

Mr. Frank L. Stringi *w/ENF*
Director
Dept. of Planning & Community Dev.
City Hall
Revere, MA 02151

Mr. Dennis R. Roy *w/ENF*
Town Engineer
Town Hall
Saugus, MA 01906



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149
March 26, 1987

Planning Division
Basin Management Branch

Mr. David Shepardson
EOEA/MEPA Unit
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202

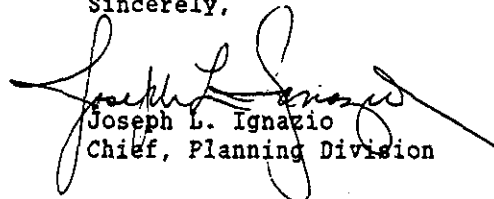
Dear Mr. Shepardson:

I previously forwarded to you the Environmental Notification Form for the Saugus River and Tributaries, Flood Damage Reduction Study on behalf of the communities of Lynn, Malden, Revere and Saugus, MA, for your review and comments. I appreciate your interest in this study.

Mr. James S. Hoyte, Secretary of Environmental Affairs, in a letter dated June 16, 1986 to the Corps provided a list of agencies for coordination of the study. I appreciate your willingness to represent your agency. In order to obtain your views during the study process, group meetings will be held periodically with points of contact from Federal, state and local agencies. In preparation for your participation, a Project Information binder and a binder of all Project Correspondence will be provided under separate cover. These are working documents which will be used and kept updated by study participants as the study progresses.

The Corps looks forward to working with you on this Federal/State/Local Agency Technical Group to help identify and resolve concerns during this important study. If you have any questions, please feel free to call me at (617) 647-8508. Mr. Robert G. Hunt, the Project Manager (647-8216) and Mr. Joseph L. Horowitz, the Environmental Manager (647-8518) can both be contacted for additional information.

Sincerely,


Joseph L. Ignazio
Chief, Planning Division

Copy Furnished:

Mr. Steve Davis, Director
EOEA/MEPA Unit
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202

Similar Letters Sent to:

Mr. James Fair, Jr.
Asst. Director of Comm. Fisher.
DFW&ELE/Div. of Marine Fisher.
100 Cambridge St., 19th Floor
Boston, MA 02202

Mr. H. W. Heusmann
Waterfowl Biologist
DFW&ELE/Div. of Fisheries and
Wildlife
Field Headquarters
Westborough, MA 01581

Mr. William Lesser
Senior Planner, Flood Hazard
Mitigation
DEM/Division of Water Resources
100 Cambridge St., 13th Floor
Boston, MA 02202

Mr. Charles Lawson
Senior Civil Engineer
DEM/Division of Waterways
Bldg. 45, 349 Lincoln St.
Hingham, Massachusetts 02043

Mr. John Felix
Chief, Wetlands Section
DEQE/NE Regional Ofc - Div of
Wetlands
Five Commonwealth Ave.
Woburn, MA 01801

Ms. Margo Webber
Senior Sanitary Engineer
DEQE/DWPC-TSB
Westview Building, Lyman Sch.
Westborough, MA 01581

Ms. Judy Perry
DEQE/DWPC - Permits
One Winter Street
Boston, MA 02108

Mr. Charles Natale
Chief, Waterways Reg. Sec.
DEQE/Div. of Wetlands & Water-
ways Reg.
One Winter St., 8th Floor
Boston, MA 02108

Carbon Files Sent to Dept. Heads:

Mr. Philip Coates, Director
DFW&ELE/Div. of Marine Fisheries
100 Cambridge St., 19th Floor
Boston, MA 02202

Mr. Richard Cronin
Director
DFW&ELE/Div of Fisheries and
Wildlife
100 Cambridge Street
Boston, MA 02202

Mr. Charles Kennedy
Director and Chief Engineer
DEM/Div of Water Resources
100 Cambridge St., 13th Floor
Boston, MA 02202

Mr. John Hannon
Director and Chief Engineer
DEM/Div. of Waterways
100 Cambridge St., 19th Floor
Boston, MA 02202

Mr. Gary Clayton
Director
DEQE/Div. of Wetlands & Water-
ways Reg.
One Winter St., 8th Floor
Boston, MA 02108

Mr. Thomas McMahon
Director
DEQE/Div. of Water Pollution Cont.
One Winter St.
Boston, MA 02108

Mr. Thomas McMahon
Director
DEQE/Div. of Water Pollution Cont.
One Winter St.
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Mr. Gary Clayton
Director
DEQE/Div. of Wetlands & Water-
ways Reg.
One Winter St., 8th Floor
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Mr. David Shepardson
EOEA/MEPA Unit
100 Cambridge Street, 20th Floor
Boston, MA 02202

Mr. Steve Davis, Director
EOEA/MEPA Unit
100 Cambridge Street, 20th Floor
Boston, MA 02202

Mr. Henry A. Higgott
Project Manager
MDC/Parks Engr. & Constr. Div.
20 Somerset Street
Boston, MA 02108

Mr. William J. Geary, Commissioner

Mr. Jeff Benoit
Coastal Geologist
Coastal Zone Management
100 Cambridge Street, 20th Floor
Boston, MA 02202

Mr. Richard F. Delaney
Director
Coastal Zone Management
100 Cambridge Street, 20th Floor
Boston, MA 02202

Mr. Jim O'Connell
Project Review Coordinator
Coastal Zone Management
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202

Mr. Richard F. Delaney
Director
Coastal Zone Management
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202

Mr. Paul J. DiPietro
Project Manager
MDC/Parks Engr. & Const. Div.
20 Somerset St.
Boston, MA 02108

Mr. William J. Geary, Commissioner

Mr. Carney Terzian
Supv., Water Resources and
Flood Control Section
MDC/Parks Engr. and Const. Div.
20 Somerset Street
Boston, MA 02108

Mr. William J. Geary
Commission
Metropolitan District Comm.
20 Somerset Street
Boston, MA 02108

BMB File, 112N (87-23)



The Commonwealth of Massachusetts

Division of Fisheries and Wildlife

Field Headquarters, Westboro 01581

April 2, 1987

Joseph L. Ignazio
Dept. of the Army
Corp of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Re: MEPA scoping meeting on flood damage reduction study; Saugus River and tributaries.

The Division of Fisheries and Wildlife wishes to voice its concern on the impact of the proposed project on American black duck (Anas rubripes) habitat in the vicinity of the mouths of the Saugus and Pines Rivers. Currently, 250+ black ducks utilize the habitat on both sides of the Route 1A bridge during winter months. These birds apparently are feeding on blue mussels (Mytilus edulis) when the flats are exposed at low tide and on salt marsh snails and other invertebrates when the marshes are inundated at high tide. The salt marshes associated with the Pines and Saugus Rivers are the only remaining salt marsh in the Lynn Harbor area. Black ducks require this combination high/low tide feeding strategy to survive New England winters. They also require a source of fresh water provided by the rivers.

Points of Pines used to be one of our black duck banding stations in the late 1960's but was discontinued due to declining black duck flock size. In recent years, that situation has been reversed, possibly related to restrictions placed on black duck hunting since 1983 in Massachusetts and 1984 elsewhere. To jeopardize this wintering site and reverse this population growth would be detrimental to an important natural resource. To minimize impact we request that the Lynn Harbor Walls and dikes be incorporated into the existing wall system and any expansion be done on upland, not in the river bed. Our feeling is that the creation of protective walls will encourage development of a flood prone area and increase real estate values. The costs should be borne by the upland area and not the much abused water/wetland system.

Sincerely,

A handwritten signature in cursive script, appearing to read "H W Heusmann".

H W Heusmann
Waterfowl Biologist

HWH:mh



April 7, 1987

Mr. Joseph Horowitz
Environmental Manager
New England Division, Army Corps of Engineers
424 Trapelo Rd.
Waltham, MA 02254-9149

RE: Saugus River
Flood Reduction Study
Saugus, Malden, & Revere, MA

Dear Mr. Horowitz,

Thank you for contacting the Massachusetts Natural Heritage Program regarding rare species and ecologically significant natural communities in the vicinity of the proposed flood reduction project on the Saugus River and tributaries in Saugus, Malden, and Revere, MA.

At this time, we are not aware of any rare plants or animals or noteworthy natural communities in the area of the proposed project. However, as our inventory expands with ongoing fieldwork and research, more data on this area may become available in the future.

Sincerely,

Joanne Michaud

Joanne Michaud
Environmental Reviewer

JM/jm

D-21



Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108 (617)-451-2770

Serving 101 Cities & Towns in Metropolitan Boston

April 13, 1987

RECEIVED

APR 21 1987

The Honorable James S. Hoyte, Secretary
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, MA 02202

OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

Project Identification

Project Name: Flood Damage Reduction Study

EOEA#: 6497

Project Proponent: U.S. Army Corps. of Engineers

MAPC#: ENF-87-84

Location: Lynn, Malden, Revere, Saugus

Received: 3/25/87

Dear Secretary Hoyte:

In accordance with the provisions of Chapter 30, Section 62, of the Massachusetts General Laws, the Council has reviewed the Environmental Notification Form identified above and offers the following comments:

1. ☐ Environmental Notification Form adequate; no Environmental Impact Report should be required.
2. ☐ Before a determination can be made as to whether or not an Environmental Impact Report should be required, additional information should be provided on () probable environmental impacts, () alternatives to proposed action, and/or () measures proposed to mitigate probable impacts.
3. ☒ An Environmental Impact Report () should be required, (X) is categorically required.
4. ☒ Additional comments are attached.

Sincerely,

Joel B. Bard
Deputy Director/
General Counsel

JBB/LLT/mlm

cc: U.S. Army Corps. of Engineers
Peter DeVeau, MAPC Rep., Lynn
Janette Fasano, MAPC Rep., Saugus
Samuel E. Reinherz, MAPC Rep., Malden
Frank Stringi, MAPC Rep., Revere

Lori Thayer, MAPC Staff

Frank E. Baxter, President

Franklin G. Ching, Vice-President

Marjorie A. Davis, Secretary

Martha K. Gjestby, Treasurer

Executive Director: David C. Soule

Additional Comments

The project categorically requires an EIR (and EIS). A number of issues have been raised in the ENF with stated agreement that they will be studied in further depth. However, there are additional concerns that we would also like to see addressed in the EIR. These are outlined below:

Comparative Analysis of Options 1 and 3

A more detailed comparative analysis should be outlined that weighs secondary as well as primary impacts resulting from options 1 and 3. For instance, the indirect impacts on the wetlands and estuaries due to the presence of a floodgate need to be included when comparing disturbed acreage of vegetated wetlands, e.g., problems of inadequate flushing.

Additional Flooding

The possibility of induced flooding in other areas due to the proposed structures under options 1 and 3 needs to be addressed. Option 3 may best control flooding in present floodprone areas, but may cause increased flooding in areas located behind the floodgate, for example, Lynn South Harbor. Any potential increase in flooding should be included in any cost-benefit considerations.

Recreation and Open Space

Any alteration of land use relative to recreation and open space should be listed for each existing parcel. Any decrease in recreational use of beachfront, wetlands, or estuaries should be discussed. Of greatest concern, any increase (or decrease) of land suitable for development should be clearly delineated. If certain parcels of land become less floodprone, how will development on this land alter existing land use, and land-use patterns?

Coordination of Army Corp Projects

There are at least ten ongoing flood-control and dredging projects being conducted by the Army Corps in the project area. Therefore, some form of coordination should be implemented. The environmental impact documents should make mention of these other ongoing projects and their impacts/coordination with the proposed project.

Public Benefits

Given that public monies will be expended to protect a number of privately owned parcels, the acquired public benefits from this project need to be clearly outlined. In the case that few public benefits will result, the project proponents may want to consider adding some public benefits, such as increased public access to certain areas, in the project plan.

(A)



Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108 (617)-451-2770

Serving 101 Cities & Towns in Metropolitan Boston

DATE: March 25, 1987

I.D. #: ENF-87-84

TO: Samuel E. Reinherz

COMMUNITY: Malden

Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: Flood Damage Protection Study

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY April 11, 1987



ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS



MERITS FURTHER ENVIRONMENTAL STUDY



NEED MORE INFORMATION

EXPLANATORY COMMENTS:

SIGNATURE:

DATE:

Samuel E. Reinherz, Malden

MAR 26/87



Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108 (617)-451-2770

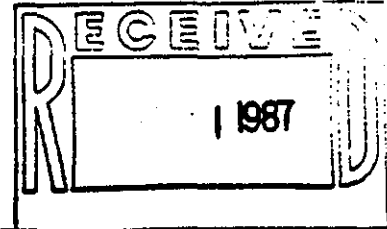
Serving 101 Cities & Towns in Metropolitan Boston

DATE: March 25, 1987

I.D. #: ENF-87-84

TO: Frank Stringi

COMMUNITY: Revere



Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: Flood Damage Reduction Study

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY April 10, 1987

- ☐ ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- ☒ MERITS FURTHER ENVIRONMENTAL STUDY
- ☐ NEED MORE INFORMATION

EXPLANATORY COMMENTS:

OPTION #3 MERITS FURTHER ENVIRONMENTAL STUDY WITH RESPECT TO WETLAND IMPACT AND AESTHETIC AND VISUAL IMPACTS.

*RECEIVED
MAY 25 0 40 PM '87*

SIGNATURE: Frank Stringi

DATE: 3/30/87



Metropolitan Area Planning Council

110 Tremont Street Boston, Massachusetts 02108 (617)-451-2770

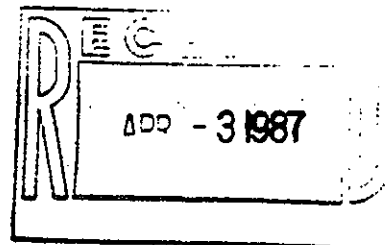
Serving 101 Cities & Towns in Metropolitan Boston

DATE: March 25, 1987

I.D. #: ENF-87-84

TO: Janette Fasano

COMMUNITY: Saugus



Enclosed is a description of the project referenced below.

The Council requests that you consider whether this report adequately describes the project's impact upon your community and addresses significant environmental benefits and potential damages.

PROJECT TITLE: Flood Damage Protection Study

THE COUNCIL HAS ONLY 20 CALENDAR DAYS TO FILE COMMENT WITH E.O.E.A. TO MEET THIS DEADLINE, YOUR COMMENTS MUST BE RECEIVED AT THE MAPC BY April 11, 1987

- ☐ ADEQUATELY DESCRIBES ENVIRONMENTAL IMPACTS
- ☒ MERITS FURTHER ENVIRONMENTAL STUDY
- ☐ NEED MORE INFORMATION

EXPLANATORY COMMENTS:

An Environmental Impact study should be conducted on each of the options presented; especially to show the typical magnitude of the adverse impacts to the wetlands & coastal mudflat areas.

SIGNATURE: Janette Fasano

DATE: 4/2/87



COASTAL ZONE
MANAGEMENT

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

RECEIVED

APR 23 1987

MEMORANDUM

TO: STEVE DAVIS, DIRECTOR, MEPA UNIT
FROM: RICHARD F. DELANEY, DIRECTOR, MCZM
DATE: APRIL 21, 1987
RE: EOA #6494 - FLOOD DAMAGE REDUCTION STUDY, SAUGUS
RIVER AND TRIBUTARIES

OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

The Massachusetts Coastal Zone Management (MCZM) Office has reviewed the Environmental Notification Form (ENF) for the project referenced above which was noticed for public comment in the Environmental Monitor dated March 26, 1987.

The proposed project would provide protection against tidal flooding in the communities of Lynn, Malden, Revere and Saugus. The protection is being considered for approximately 5,000 residential, commercial or industrial buildings. Three basic options for flood damage reduction are being considered. Under the MEPA regulations this project is categorically included and automatically requires the preparation of an Environmental Impact Report (EIR). Comments regarding each option will be presented separately.

Option 1. Four Structural Local Protection Plans - This option includes the construction of 9.8 miles of flood protection structures. Approximately thirty-one (31) acres of vegetated wetlands and thirty-two (32) acres of tidal flats, banks and river bottom would be adversely affected by this option.

Comments: A detailed delineation of all wetlands should be presented. This would include saltmarsh, freshwater marsh, coastal beaches and banks, tidal flats, shellfish beds, etc. A complete evaluation of how the construction of the structures complies with the Coastal Regulations under the Wetlands Protection Act must be performed. Special attention should be given to the requirements for a variance if any saltmarsh is going to be filled or altered.

Option 2. Nonstructural Plans - The nonstructural option would reduce flooding damage through flood preparedness plans and floodproofing of buildings.

Comments: MCZM favors this alternative because it provides reduction in flood damages yet does not encourage continued encroachment in flood-prone or environmentally sensitive areas. A detailed economic analysis must be provided that documents why this option is not a feasible alternative. Emphasis should focus on how many buildings have been built since 1978 in the floodplain without proper floodproofing. Justification should be presented for the support of a public expenditure to protect buildings that were not constructed according to the requirements of Section 744 of the State Building Code.

Option 3. Regional Saugus River Flood Gate Plan - This is the COE preferred option and consists of a tidal flood gate across the mouth of the Saugus River and approximately three (3) miles of flood protection structures along the Lynn shorefront areas. It is expected that this option would adversely affect about fourteen (14) acres of tidal flats or river bottom.

Comments: A delineation and discussion of the wetland areas within the study areas, similar to the one requested for option 1, would be necessary for this option. In addition, a complete analysis of the present flushing characteristics of the estuary must be completed. This analysis must address tidal circulation patterns, flushing rates, tidal amplitude and phase, sediment transport rates and disposal patterns. A complete ecological survey of the estuary must also be included in this analysis. Once the existing conditions are fully understood, the affect of the tidal gate on these same parameters must be analyzed.

The final placement site of the tidal gate could also potentially affect storm surge level to areas immediately adjacent to the tidal gate. Therefore a detailed surge model should be generated for Broad Sound.

General Comments

It would seem appropriate that the expenditure of such a large sum of taxpayer money should produce some type of public benefit that can be utilized by everyone, especially since the private sector will benefit so much from this project. Public walkways or fishing areas should accompany all of the options.

The selection of either Option 1 or Option 3 would directly increase the encroachment of development on the Saugus River estuary. Providing flood protection to the upland floodplain will encourage more residential and industrial development of the area. Whatever option is finally selected, it must incorporate the long-term protection of the Saugus Estuary. It will be required that some type of long-term protection is a component of the final plan.

It is well documented that relative sea level rise has been ongoing at an approximate rate of one foot per century for at least the past several hundred years (based on tidal records). The Environmental Protection Agency has generated estimates that this rate could increase substantially in the next one hundred years. Because this project is expected to have a life expectancy of one hundred years, the planning of this project should incorporate an analysis of the future effectiveness of the project based on the present day rate of relative sea level rise. Consideration should also be given to the EPA estimates of future sea level rise rates.

Please be advised that this project will be subject to federal consistency review by this Office before any federal action can be taken. Additional information regarding federal consistency review can be obtained by contacting Mr. Jim O'Connell at 727-9530.

RFD/JB/sla



The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

100 Cambridge Street

Boston, Massachusetts 02202

5/4/87
#

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON THE

ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Flood Damage Reduction Study
PROJECT LOCATION : Lynn, Malden, Revere and Saugus
EOEA NUMBER : 6497
PROJECT PROPONENT : U.S. Army, Corps of Engineers
DATE NOTICED IN MONITOR : March 26, 1987

Pursuant to the Massachusetts Environmental Policy Act (G.L., c.30, s.61-62H) and Sections 11.04 and 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that the above project requires the preparation of an Environmental Impact Report.

The proposed project in some of its alternatives is categorically included among those projects for which an Environmental Impact Report is required. The Corps of Engineers have also concluded that a Federal Environmental Impact Statement is required. My goal is that a single document be adequate to satisfy both the State and Federal environmental review. For that reason it is provided that the enclosed Scope may be expanded to include the Federal needs such as economic and social impacts. The state review will consider the entire document.

The project is complicated by several other state/federal actions in the area. Most important to this project are the removal of the I/95 embankment for Revere Beach Renourishment and Mass. DPW highway projects and the local/state/federal enlarged navigational channel in the Saugus River. Both projects are now

planned, but not existing, so that background data with the projects are not available. However, both are projected to be in place prior to construction of the Flood Damage Reduction Project. Thus, the analysis and modeling efforts are complicated by the need to separate impacts from these earlier projects from the impacts of the current proposal.

In basic form the EIR needs to evaluate potential changes in tidal flushing, storm surges, sediment transport, and water quality in order to assess the impacts of any potential changes on operations, processes, and resources in the area. In addition, the revised FEMA flood elevations are necessary to allow local, state, federal landuse regulatory changes and to evaluate potential land use changes following the project.

On the state level, a strong mitigation plan is necessary for identified potential significant impacts and since a M.G.L. ch.130,s.40 waiver would be required for some options, an analysis of the ability to meet the waiver criteria is needed. Also, since some state agency will become a proponent for a percentage of the project, the final EIR should contain a draft M.G.L. ch.30,s.61 finding.

S C O P E

1. Evaluation of changes in the physical environment from today, through other proposed changes to implementation of the current proposals. Such analysis must included;

A. Tidal Flushing

- 1) Mean
- 2) Spring
- 3) Storm

B. Sediment Transport

- 1) within the estuary
- 2) from the estuary

C. Water Quality consider for both normal and storm conditions

- 1) salinity
 - a. boundaries
 - b. quality changes
- 2) contaminants such as mercury and hydrocarbons

- D. Storm Surge - changes both within and outside the flood control structures must be evaluated.
- E. Flood Stage/Frequency - changes in flood levels as used by FEMA should be presented. Identify if structures are in the new flood zones.

II. Environmental impacts of both construction and operation of the alternative strategies on the following issues must be evaluated.

- A. Water Quality - construction impacts of dredging, etc. need analysis.
- B. Wetland Resources - Each of the wetland resource areas under M.G.L. ch.131,s.40, including wildlife habitat must be separately quantified and evaluated.
- C. Fisheries - Catadromous, Anadromous, Flounder nursery, and Sea Run Brown Trout must be considered.
- D. Water fowl - include nesting, feeding over-wintering and migratory use.
- E. Benthic Community - include shellfish, sea worms, etc.
- F. Aesthetics/Recreation - both physical and visual access to the estuary and recreation areas should be evaluated.
- G. Navigational Impacts - include current changing and channel closing impacts.
- H. Community Growth - suggested future growth should consider the changed flood status, but also that the enclosed basin of the hurricane dike would act as an inland wetland for mainland runoff when closed, which may preclude filling without compensation.

III. Mitigation - Specific mitigation should be proposed, evaluated and adopted if feasible for each significant impact identified above.

IV. Waiver - For each alternative requiring a waiver under M.G.L. ch.131,s.40, the ability to meet the waiver criteria must be fully evaluated.

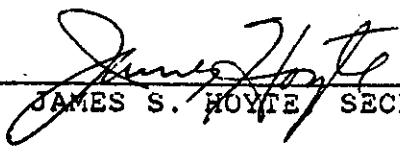
V. Section 61 Finding - A state agency will become a partner of the adopted flood reduction program. This agency and every other state agency acting on the proposal must include a section 61

April 27, 1987

finding in their action. The Final Impact Report must contain a draft section 61 finding for the entire project.

April 27, 1987

DATE


JAMES S. HOYTE, SECRETARY

JSH/DES/bk

LETTERS TRANSMITTED WITH ENF CERTIFICATE:
(Included in Correspondence Binder)

Nicholas Mavroules, Member of Congress to Sec. Hoyte, April 13, 1987

Richard Delaney, Dir. MCZM to Steve Davis, MEPA, April 21, 1987

Lori Thayer, MAPC staff to Sec. Hoyte, (W/attach. Malden & Saugus) April 13, 1987

Alfred L. Thurlow, Prin. Plnr., Malden to Sec. Env. Aff., April 8, 1987

Frank McKinnon & Anne Cyros, Saugus Conser. Comm., to Col. Rhen March 30, 1987

Ellen Haas, Chm., Revere Beach Citizen Adv.Comm. to Sec.Env. Aff., April 13, 1987

Judith C. Skinner, MACC Bd. of Dir. to Sec. EOEa, April 12, 1987

MACC, President to MEPA Unit, March 30, 1987

Paul Hauge & Sally Newbury, Conservation Law Found., April 15, 1987

Richard K. Quateman, Dir., Mass. Audubon Soc., April 10, 1987

Ellen Burns, Pres., Saugus Action Volun. for Envir., April 13, 1987

Polly Bradley, Sec., SWIM: Nahant Citizen Comm., April 15, 1987

Norma Brooks, 21 Lenox Rd., Nahant, MA, April 14, 1987

BMB, 112N (87-23)



The Commonwealth of Massachusetts
Metropolitan District Commission

20 Somerset Street, Boston 02108

WILLIAM J. GEARY
COMMISSIONER

October 9, 1987

Secretary James S. Hoyte
Executive Office of Environmental Affairs
Leverett Saltonstall Building - 20th Floor
100 Cambridge Street
Boston, MA 02202

Subject: Flood Damage Reduction Project - Saugus River and Tributaries -
Lynn, Malden, Revere and Saugus, MA - U.S. Army Corps of Engineers

Re: Proponent State Agency

Dear Secretary Hoyte,

The Metropolitan District Commission has a vital interest in this project. Important areas of mutual interest exist between the Corps and MDC that synchronization is a necessity for flood control structures, modes of operation and the hydrology and hydraulics of the Saugus Marsh.

On September 24, 1987, the U.S. Army Corps of Engineers presented a briefing of their project to the MDC, cognizant of our associated project for flood control at Town Line and Linden Brooks, including the Revere Pumping Station and the Revere Beach Master Plan. Col. Rhen and I discussed the interfacing of our responsibilities and concluded that continued coordination will be beneficial to the public by reducing construction costs and sharing project benefits in three major areas of concern.

Chief among these is the Corps' intended expenditure of \$45,000,000 for flood reduction, including a flood barrier across the mouth of the Saugus River downstream of the General Edwards Bridge. The MDC has a \$25,000,000 project which includes \$12,000,000 for drainage improvements and \$13,000,000 for the construction of the Revere Pumping Station to control storm runoff in the Malden, Revere, and Everett watershed. It is quite possible that a reduced configuration or elimination of the pumping station by our intergrated action may provide a savings approaching \$13,000,000.

The next area of concern is the MDC park dike at Revere Beach. This represents the solution to the wave overtopping at Revere Beach. The Corps has adopted the MDC Master Plan for a secondary seawall and park diking to form a storm water retention basin in this area (\$12,000,000).

Secretary James S. Hoyte
Re: Proponent State Agency
October 9, 1987
Page 2

The third area of interest is the Corps' barrier project is on or adjacent to MDC property including parts of the Saugus and Pines Rivers, Lynn and Revere Beaches.

My wish is to culminate the flood protection project by restoring the natural beauty of the marsh and environment with a public park which would enhance the marsh, prevent further urbanization and encroachment. I recommend that you name the MDC as the proponent state agency because of these advantages.

Very truly yours,


William Geary
Commissioner

WG/pz

cc: Richard R. Signore, Director, Parks Engineering and Construction
Julia B. O'Brien, Director of Planning
Carney M. Terzian, Supervisor, Water Resources and Flood Control Section
Henry A. Higgott, Project Manager, MDC, Revere Beach and Saugus Marsh
Paul DiPietro, Project Manager, MDC, Town Line and Linden Brooks
Colonel Thomas A. Rhen, Division Engineer, Corps of Engineers
Robert G. Hunt, Project Manager, Corps of Engineers



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149
October 15, 1987

REPLY TO
ATTENTION OF

Planning Division
Basin Management Branch

Mr. James S. Hoyte, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary Hoyte:

This is to advise you of New England Division's ongoing Saugus River and Tributaries Flood Damage Reduction Study. The project which is supported by Congressional leaders and the communities of Lynn, Malden, Revere and Saugus has undergone the initial stages of both the MEPA (EOEA 6497) and NEPA processes. With the assistance of both your staff and the local sponsors, we have formulated several tidal flood protection alternatives which will be carried through the planning process.

The Regional Saugus River Floodgate Plan is supported by and provides tidal flood protection for all four communities. The region includes about 5,000 flood prone buildings subject to potential damages approaching a billion dollars from severe conditions created by a Standard Project Northeaster. Damages from a recurring Blizzard of 1978 storm tide could exceed \$100 million.

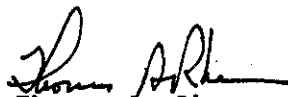
The proposed plan would protect considerable state and public property, and includes features which impact on state property. In addition to the support of the four communities, a state sponsor is needed for this project to facilitate final project formulation, review, approval, funding and final implementation. To this end, recently, I had the opportunity to present the project to Commissioner Geary and his staff of the Metropolitan District Commission.

At this briefing, the Commissioner indicated an interest in future operation and maintenance of this project should it be constructed. With this in mind, I request your view on the Commission acting as the state sponsor to assist the local communities with the non-federal requirements to include the cost sharing provisions of the Water Resource Development Act of 1986. It is noted that the MDC has had operational experience with similar projects in the region.

Should you desire, I would be pleased to brief you and your staff on this important project. If you have any questions, please feel free to call me at (617) 647-8220. Mr. Robert G. Hunt, the project manager (647-8216), can also be contacted to answer questions from you or your staff.

Thank you again for your interest and cooperation on this project.

Sincerely,



Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copies Furnished:

Honorable Albert V. DiVirgilio, Mayor of Lynn
City Hall, Lynn, MA 01901

Honorable James S. Conway, Mayor of Malden
Government Center, 200 Pleasant St., Malden, MA 02148

Honorable George V. Colella, Mayor of Revere
City Hall, Revere, MA 02151

Mr. Norman B. Hansen, Town Manager
Town Hall, Saugus, MA 01906

Mr. Jim O'Connell, Project Review Coordinator
Mass. Coastal Zone Management, 100 Cambridge St., Boston, MA 02202

Mr. William J. Geary, Commissioner
Metropolitan District Commission
20 Somerset Street, Boston, MA 02108



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

November 9, 1987

Commissioner William Geary
Metropolitan District Commission
20 Somerset Street
Boston, MA 02108

Re: Saugus River and Tributaries Flood Damage Reduction Project - EOE #6497

Dear Commissioner Geary:

It is with great pleasure that I accept your offer to serve as the Commonwealth's joint proponent with the U.S. Army Corps of Engineers in the Flood Damage Reduction Project. This project is of great importance at all levels of government and, as you point out, relates closely to several ongoing efforts by the Metropolitan District Commission. Thus, I do hereby confirm the MDC as a joint proponent on EOE #6497 and shall publish a notice of this determination in the next issue of the Environmental Monitor.

So that you may begin your joint efforts most expeditiously, I am attaching a copy of my Certificate on the Environmental Notification Form for the project. This lays out the scope of the Environmental Impact Report for the project and will guide my review of the project. I also suggest that your designee for the project contact Steve Davis or David Shepardson at the MEPA office and Col. Rhen's designee at the Corps to develop a more complete file on the project.

Again, it is with pleasure that I accept your offer; it marks a milestone in cooperation for this project and will help to assure a successful conclusion.

Sincerely,

James Hoyte
James S. Hoyte
Secretary

cc: Col. Rhen, USACOE
R. Hunt, USACOE
R. Signore, MDC
S. Davis, MEPA

SCD/sd



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

December 14, 1987

Colonel Thomas A. Rhen
Division Engineer
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254

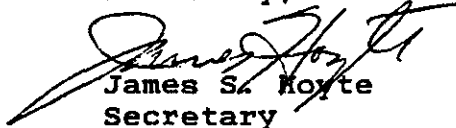
RE: Saugus River Flood Damage Reduction Project - EOE #6497

Dear Colonel Rhen:

Recently, I sent you a copy of my November 9, 1987 letter to Commissioner Geary of the Metropolitan District Commission accepting with great pleasure the MDC's offer to serve as the Commonwealth's joint proponent with the communities of Lynn, Malden, Revere, and Saugus and the U.S. Army Corps of Engineers on the Saugus River Flood Damage Reduction Project. This marks a milestone in the continued inter governmental cooperation on this project.

I want to reiterate my strong support for this process. I would also like to thank you for the active role of the Corps in fostering both the process and the spirit of cooperation. In this regard, I assure you that the Commonwealth will continue to work with the Corps in assessing the appropriate course of action for this project.

Sincerely,


James S. Hoyte
Secretary

JSH/sd

cc: W. Geary, MDC
S. Davis, MEPA



COASTAL ZONE
MANAGEMENT

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

100 Cambridge Street

Boston, Massachusetts 02202

cc: Horowitz, JAC
Wood, NCB
Oliver, JAC

MEMORANDUM

TO: STEVE DAVIS, DIRECTOR, MEPA
FROM: JAN SMITH, MCZM *Jan Smith*
DATE: FEBRUARY 26, 1988
RE: SAUGUS RIVER AND TRIBUTARIES FLOOD DAMAGE REDUCTION STUDY

I attended the recent Technical Advisory Group meeting on February 25, 1988 where the Army Corps of Engineers presented an overview and update on their baseline information gathering efforts on the Saugus River Flood Control Project.

I expressed my concern at that meeting over the problems that would be caused by the existing combined sewer overflow to the Saugus River from the City of Lynn. Lynn and their consultants are currently developing a facilities plan under a consent decree with EPA and DEQE. The Lynn efforts to mitigate the CSO on the Saugus River is being based on the calculated dilution available from an unobstructed, regular tidal flow and DEQE's CSO policy which allows four violations of water quality criteria per year. My concerns are that: 1) the closure of the hurricane barrier at any time will affect the dilution available and consequently the ability to meet water quality criteria; and 2) it is very reasonable to anticipate that the expected four violations will occur during a period of heavy rainfall that will coincide with a storm surge requiring a closure of the barrier. This will compound water quality problems. The issues which require examination include sedimentation and associated toxics deposition, especially during a closure of the barrier, as well as bacterial contamination of shellfish beds resulting from the overflow, and the ability to meet the required water quality criteria. The CSO policy of DEQE identifies mitigation based on economic feasibility, and, since the Saugus River flood control project will clearly influence the mitigation plan, I suggested to the Corps of Engineers at the TAG meeting that they consider funding a facility to completely eliminate the CSO on the Saugus River.

Subsequent to the TAG meeting, it came to my attention that this issue was not included in the scope of studies required by MEPA, and I feel that an amendment should be made to include this item since the potential impacts on water quality are severe.

JS/sla

cc: Judy Perry - DWPC-DEQE, Boston
Bob Hunt, Project Manager, COE

D-29

Rec'd 2 Mar 88



COASTAL ZONE
MANAGEMENT

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

1 April, 1988

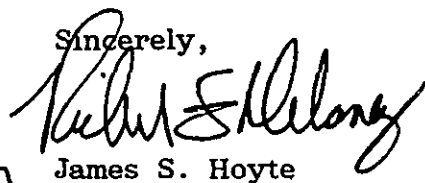
Mr. Daniel McAuliffe
Broad Sound ACEC Nominating Committee
c/o Roughan's Point Association
P.O. Box 557
Revere, Massachusetts 02151

Dear Mr. McAuliffe:

After a thorough review, I am happy to accept your nomination of the Broad Sound, Saugus and Pines River, and portions of the Cities of Boston, Revere, and Lynn, and the Towns of Saugus and Winthrop as an Area of Critical Environmental Concern (as per attached boundary delineation). The findings of the preliminary review indicate that the area clearly meets the minimum regulatory thresholds for acceptance of nominations as put forth in 301 CMR 12.00.

Before the required public hearing is scheduled, I feel that it would be appropriate to arrange for one or possibly two public information meetings which will provide an opportunity for discussion of the reasons for nomination, ramifications of designation, and administrative procedures involved in designation. An extensive question and answer period should be included in the agenda of these meetings. Please contact Brad Barr of CZM to arrange for possible meeting dates for both the informational meetings and subsequent public hearing.

I would like to commend your collected organization for a thorough and well presented nomination.

Sincerely,

for James S. Hoyte
Secretary

Daniel McAuliffe
1 April, 1988
Page 2

JSH/BWB
Attachment

cc: City of Boston City Council
 Boston Redevelopment Authority
 Environment Department

 City of Lynn City Council
 Planning Department
 Conservation Commission

 City of Revere City Council
 Planning Department
 Conservation Commission

 Town of Winthrop Board of Selectmen
 Planning Board
 Conservation Commission

 Town of Saugus Board of Selectmen
 Planning Board
 Conservation Commission

Gary Clayton, Charles Natale, DEQE/DWWR
Thomas McMahon, Judy Perry, DEQE/DWPC
William Geary, MDC
Joe Horowitz, Terry Flemming IAB/NED/ACOE
Nathaniel S. Lawrence, Esq., AG Office
Steven I. Burr, Esq., Gaston and Snow
Fara Courtney, MCZM North Shore Regional Coordinator
Henry Woolsey, DFWELE/NHESP
Philip Coates, DFWELE/DMF
East Saugus Waterfront Task Force



COASTAL ZONE
MANAGEMENT

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

2 April, 1988

Daniel McAuliffe
Broad Sound ACEC Nominating Committee
c/o Roughan's Point Association
P.O. Box 557
Revere, Massachusetts

Dear Mr. McAuliffe:

I overlooked the attachment referenced in the letter from the Secretary dated 1 April, 1988. Sorry for any inconvenience.

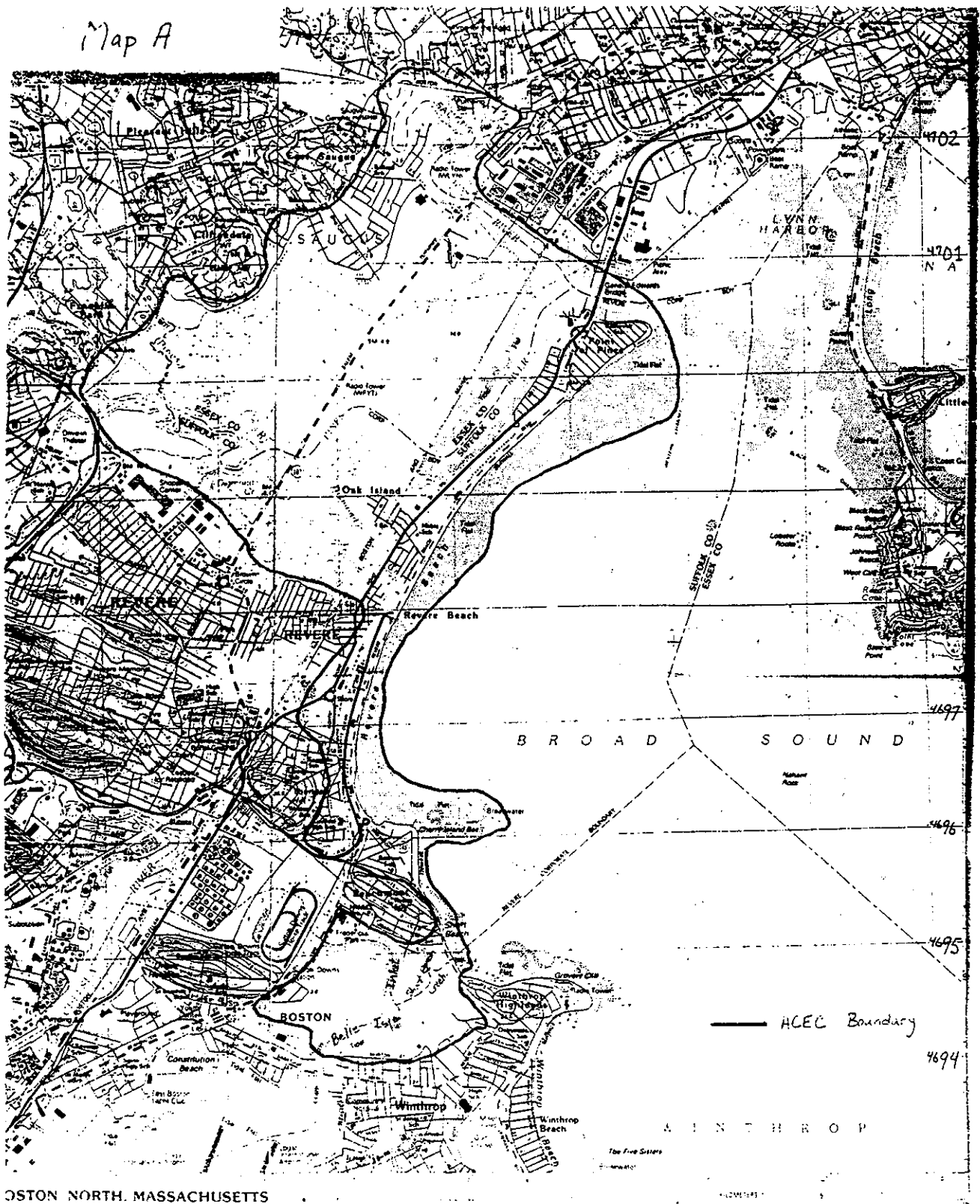
Sincerely,

Bradley W. Barr
Critical Areas Coordinator

Attachment
cc:

City of Boston: City Council, BRA, Environment Dept.
City of Lynn: City Council, Planning Dept., Cons. Comm.
City of Revere: City Council, Planning Dept., Cons. Comm.
Town of Winthrop: Selectmen, Planning Board, Cons. Comm.
Town of Saugus: Selectmen, Planning Board, Cons. Comm.
Gary Clayton, Charles Natale, DEQE/DWWR
Thomas McMahon, Judy Perry, DEQE/DWPC
William Geary, MDC
Joe Horowitz, Terry Flemming IAB/NED/ACOE
Nathaniel Lawrence, Esq., AG Office
Steven I. Burr, Gaston and Snow
Fara Courtney, MCZM North Shore Regional Coordinator
Henry Woolsey, DFWELE/NHESP
Philip Coates, DFWELE/DMF
East Saugus Waterfront Task Force

Map A





The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

April 8, 1988


Col. Thomas A. Rhen
Division Engineer
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

Dear Col. Rhen:

This letter is to inform you that I have recently accepted a nomination under our Areas of Critical Environmental Concern (ACEC) Program which may affect a number of Corps projects that are either in the planning stages or currently authorized. This nomination includes portions of the Cities of Revere, Lynn, and Boston, and the Towns of Winthrop and Saugus. Specifically included are the Saugus marshes, Revere Beach, Roughan's Point, and the Belle Isle Marshes. We have preliminarily identified the Saugus River Flood Reduction Study, the proposed Saugus River Federal Navigation Project, the proposed Pines River Federal Navigation Project, and the Revere Beach Erosion Control Project as potentially affected by the designation of the proposed area. Enclosed please find a copy of the nomination, which includes maps and proposed boundary descriptions, as well as a copy of the most recent version of the ACEC Book, which details where the existing ACEC are located and how the program is administered and implemented.

We would like to offer you the opportunity to meet with Brad Barr, who administers the coastal aspects of this program for me, to further discuss the implications of this nomination with regard to the current and future activities of the New England Division. I hope that you will contact him at 727-9530 as soon as possible to allow for this coordination in the early phases of the review of the nomination.

Sincerely,


James S. Hoyte
Secretary

JSH/BWB
Attachments

cc: Vito Andreliunas, Joeseeph Ignazio, Carl Boutilier, William Lawless

P.O. Box 557
Revere, MA 02151

March 6, 1988

James S. Hoyte
Honorable Secretary of Environmental Affairs
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

RECEIVED

MAR 11 1988

COASTAL ZONE MANAGEMENT
Exec. Office of Environmental Affairs

Dear Sir,

We, the undersigned citizens of the Commonwealth of Massachusetts do hereby nominate Broad Sound for designation as an Area of Critical Environmental Concern (ACEC) under the regulations of the Massachusetts Coastal Zone Management program and the regulations of the Massachusetts Environmental Policy Act. This area includes: Belle Isle Marsh, Short Beach, Roughan's Point, Crescent Beach, Revere Beach, Point of Pines and the Revere/Lynn/Saugus Salt Marsh System and certain adjacent watershed areas and buffer zones

We provide with this request a summary of information regarding the proposed areas resources which we feel not only satisfy the minimum eligibility requirements, but also greatly exceed these requirements. Also included is a description, including maps, of the boundaries of the proposed area for designation, and the advantages of ACEC designation.

The Broad Sound area described above has long been recognized by the Winthrop/Revere/Lynn community for its natural beauty and recreational use. We hope you will review this nomination favorably.

Thank you for your consideration.

Sincerely,

Eric M. Spiller, Winthrop

Rose Corrado, East Boston

John Kilmartin

Ellen Koratz, Winthrop

Daniel J. McAuliffe, Revere

Faith Ann Caverly/Lynn

Carol Foley, Winthrop

305 Winthrop St Winthrop

Dele Johanna Para, Revere

Ether Fick, Winthrop

Linda P. Walsh, Revere

Proposed ACEC Boundaries

The proposed area generally includes: 1) Belle Isle Marsh in Winthrop, East Boston and Revere, 2) Short Beach in Winthrop and Revere, 3) Roughan's Point, Crescent Beach, Revere Beach, Oak Island and Point of Pines in Revere, 4) the Pines and Saugus River Estuary and Salt Marsh, Bear Creek, Diamond Creek, Seaplane Basin and associated floodplain and buffer zone areas in Saugus, Lynn and Revere. The seaward boundary is the mean low water line while the landward boundary is generally based on the 10' contour, the 100 year floodplain and certain man-made structures. All elevations referred to are NGVD datum as indicated on the USGS 7½ minute topographic sheet of the Boston North (42071-D1-TM-025) and Lynn (42070-D7-TM-025) Quadrangles dated 1971, photorevised in 1978.

Specifically:

The proposed area is defined as follows:

The proposed area begins at the northwest corner of the Belle Isle Marsh abutting Bennington Street in Revere (see map A). The boundary follows Bennington Street south to Orient Heights in East Boston. The boundary then moves east along the 10' contour around the marsh to include the Belle Isle Inlet and Short Beach Creek. At Short Beach in Winthrop the boundary turns north along the mean low water line into Roughan's Point in Revere to include the Breakwater and Cherry Island Bar. The boundary then moves north to include the tidal flats of Crescent and Revere Beach. At the Point of Pines in Revere the boundary follows the tidal flats and turns west as defined by the 100 year floodplain including: the Lynn/Saugus Marsh, the Saugus Iron Works, Bear Creek, Diamond Creek, Seaplane Basin, Oak Island, and the Pines and Saugus Rivers (see map B). The boundary then moves south along the 100 year floodplain to include Sales Creek where it turns east along the floodplain boundary (see map C) to Roughan's Point and then turns south along the 10' contour to the northeast corner of Belle Isle Marsh. The boundary is completed when it turns west following the 10' contour to the northwest corner of Belle Isle Marsh in Revere.

Resources required for eligibility:

Listed below is a summary of the area's resources which we feel meet and exceed the requirements for designation as an ACEC as set forth in regulation 310-CMR-20.00 of the CZM program.

1. Historic Sites

a. The Belle Isle Marsh is comprised of 275 acres of salt marsh, salt meadow and tidal flats (150 acres are owned by the MDC, the remaining 125 acres are owned by the towns of East Boston, Winthrop and Revere). This area is unique in its proximity to the developed areas that surround it (East Boston, Winthrop and Revere).

1.a. Historical Sites, continued:

Belle Isle Marsh was the scene of the second battle of the Revolutionary War in 1776. This battle was known at the time as "The Battle of Chelsea Creek".

b. Revere Beach is the oldest public beach in the United States. Revere and Crescent beach have been enjoyed by the public since the late 19th century. Over the past few decades the beach area had deteriorated. Presently, prolific reconstruction and development is taking place along the beach. Future development must be approached in an intelligent and thoughtful manner in order to avoid irreversible negative impact upon our nation's oldest public beach.

c. Early in the 17th century, the first successful Iron Works in this country was established by colonial settlers on the banks of the Saugue River. The Saugus Iron Works is now a national historic site owned and operated by the National Park Service.

2. Shellfish Beds

Throughout the area nominated there is an abundance of shellfish beds containing softshell clams, quahogs, razor clams and blue mussels. In particular there are rich beds in the Belle Isle Marsh, Roughan's Point, Revere Beach and the Lynn/Saugus Salt Marsh areas. Although the harvesting of shellfish has been banned in some of these areas due to the effects of pollution and contamination, efforts to improve the overall quality of the environment through the construction of sewage treatment facilities (Massachusetts Water Resources Authority) and stricter environmental controls (MEPA, DEQE and CZM) may result in the improvement and resurgence of tainted shellfish beds.

3. Significant Wildlife Habitat

The area proposed is unique as a significant habitat for a wide variety of wildlife in so natural a setting within 5 miles of Boston, a major metropolitan center. Among the mammal species indigenous to the area are: Raccoon, Muskrat, Meadow Voles, Skunks, Red Fox and Harbor Seals. Additionally, the Friends of Belle Isle Marsh and the Concerned Coastal Sportsmen's Association list scores of species of birds that either breed in the area or feed and rest during their annual migrations. A partial listing includes: Short-eared Owls, Snowy Owls, Glossy Ibis, Great Egret, Blue-wing Teal, Hudsonian Godwit, Osprey, Buffleheads, Willets, Marsh Hawks, Peregrine Falcons, Kestrels, Loons, Greater and Lesser Yellowlegs, Black Bellied and Semi-palmated Plovers, Eiders, Scaup, and Red Breasted and Hooded Mergansers. Among the species known to breed in the area are: Black Ducks, Mallards, Meadowlark, Spotted Sandpiper, Sharp-tailed Sparrow, American Kestrel, Common Terns, Killdeer and Red-tailed Hawks. Suspected breeders include: Blue-winged Teal, Marsh Wren and Savannah Sparrow.

3. Significant Wildlife Habitat, continued:

Crustacean species found in the nominated area include: Lobster, Quahogs, Softshell Clams, Razor Clams, Periwinkles, Blue Mussels, Green Crabs and Rock Crabs.

4. Floodplain

Most of the area proposed for ACEC designation lies within the floodplains for the Winthrop/Revere/Lynn community and is subject to the flood waters of coastal storms and rainwater inundation. The Blizzard of 1978 demonstrated that these floodplains serve to protect landward communities from the destruction caused by ocean flooding. The 1978 flood ravaged many homes in floodplain areas proximal to and included in the proposed ACEC designation area. Any new development in floodplain areas must come under close scrutiny in order to avoid exacerbation of this coastal flooding situation.

5. Coastal Estuary and Embayments

The Pine and Saugus rivers are coastal rivers, comprised of shallow coves, salt marshes and salt meadows, lagoons, shellfish beds and the interaction of salt and fresh water. Both intertidal areas are prolific and abundant in marine resources.

6. Salt Meadow

Included in the nominated area are several hundred acres of salt meadow in Belle Isle Marsh and the Lynn/Saugus Salt Marsh. This soil is waterlogged through most of the growing season. Vegetation is predominately grasses, rushes and sledges.

7. Salt Marsh

There are several hundred acres of salt marsh included in the area proposed for designation. The salt marsh areas serve to control pollution by trapping, organically binding and breaking down solids. These marshes provide the autotrophic energy source, i.e., plants, upon which the entire marine food web depends. Marsh vegetation includes: Spartina grasses, Salicornias, Atriplex, duckweed, watershields, marsh mallow, water lillies, bullrushes and cattails.

8. Coastal, Barrier and Recreational Beaches

There are several public beaches used for recreational purposes within the area proposed for ACEC designation. Many of these (especially Revere Beach) are barrier beaches. They are maintained by the town of Winthrop, the city of Revere and the Metropolitan District Commission.

Honorable Secretary of Environmental Affairs
Re: Nomination of Broad Sound as an ACEC
March 6, 1988

ACEC Nomination, continued:

9. Habitat for Threatened, Rare or Endangered Species

Common Terns and Meadowlarks are known to breed in the Belle Isle and Lynn/Saugus Salt Marsh.

10. Anadromous/Catadromous Fish Run

a. In the fall, usually between September and December, smelt run up the Belle Isle Inlet and Short Beach Creek into the Belle Isle Marsh.

b. In season, large numbers of blue fish, striped bass and flounder are found in Broad Sound. These fish populations constitute a significant portion of the food chain and also represent a substantial recreational and commercial fishery.

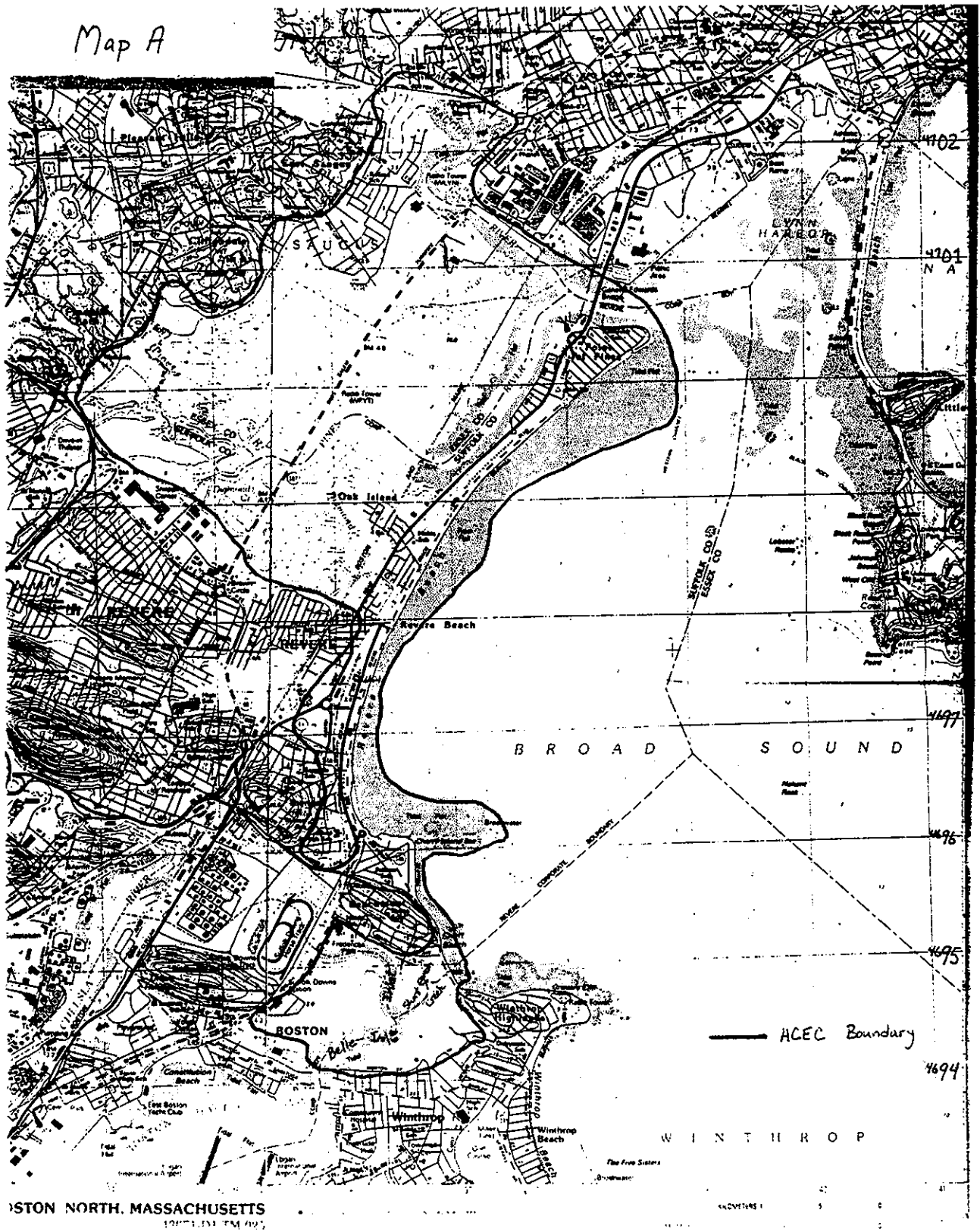
Advantages of ACEC Designation for the Broad Sound Area

When we examined the intense development pressures that currently exist in the proposed area, the advantages of ACEC designation became apparent. The advantages of ACEC designation are enormous, especially when East Boston, Winthrop, Revere, Lynn and Saugus are experiencing major development; for example: 1) Belle Isle Marsh is being encroached upon by development along Bennington Street, 2) Roughan's Point has been targeted for high-density development, 3) Revere Beach has experienced the greatest impact of high-density development thus far, and 4) currently there are plans for the construction of an MBTA Purple Line station, and parking for approximately 3,000 vehicles on land adjacent to and including the Lynn/Saugus Marsh.

In order to minimize the potentially irreversible negative impact and public health threat of development on the Broad Sound area, we seek ACEC designation. We hope this designation will help to prevent adverse effects on wildlife habitat, water quality, flood control and areas of historical significance.

In summary, it is our responsibility to protect this area for present and future generations, not just for the people in the Broad Sound area, but for each and every citizen of the Commonwealth. Also, we believe this designation will instill a greater public appreciation of the Broad Sound area, its recreational aspects and its natural beauty.

Map A



Flood Hazard Areas

- February 6 & 7 1978 Areas Inundated
- ACEC Boundary

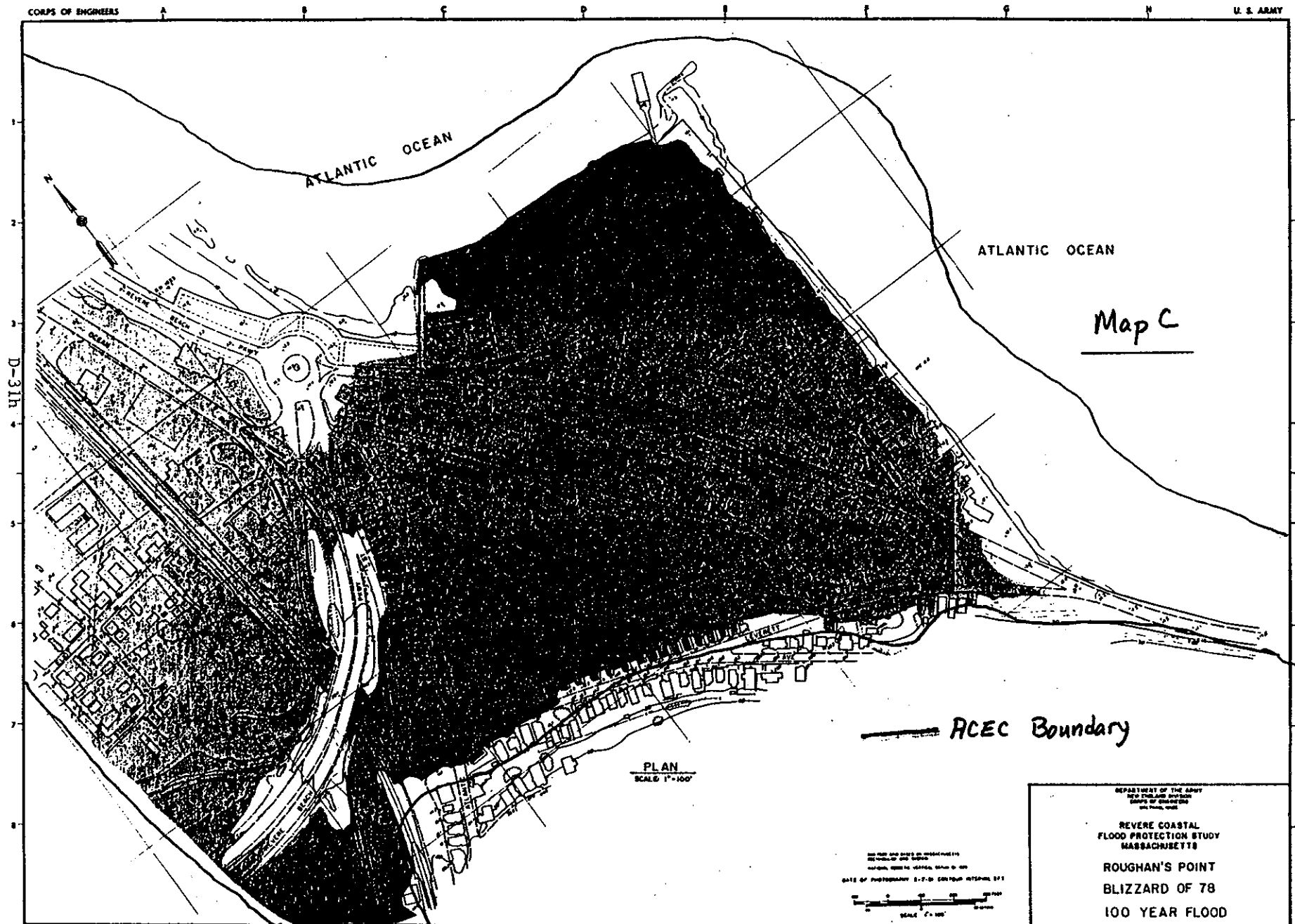
Map B

Coastal Zone Management Study
City of Revere
1979

Coastal Zone Management Study

City of Revere 1979

1979





The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

M E M O R A N D U M

TO: INTERESTED PARTIES

FROM: JAMES S. HOYTE, SECRETARY, EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

DATE: MAY 4, 1988

RE: PUBLIC INFORMATION MEETINGS/PUBLIC HEARING REGARDING THE BROAD SOUND AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) NOMINATION

Attached is a public notice regarding the dates for the informational meeting for the general public and public hearing regarding the above referenced ACEC nomination. In addition to these meetings, an additional informational workshop will be held on Tuesday evening, May 24, 1988, at the Beachmont School in Revere for local government officials. I strongly encourage your attendance and participation in at least one of the informational meetings and the public hearing. If you are unable to attend, written comments, received by the 23rd of June, are most welcome.

Thank you for your continuing interest in the ACEC program.

JSH/BWB
Attachment

Broad Sound Meetings Memorandum
April 4, 1988
Page 2

cc: City of Boston: City Council
Boston Redevelopment Authority
Environment Department

City of Lynn: City Council
Planning Department
Conservation Commission

City of Revere: City Council
Planning Department
Conservation Commission

Town of Winthrop: Board of Selectmen
Planning Board
Conservation Commission

Town of Saugus: Board of Selectmen
Planning Board
Conservation Commission

William Eichbaum - EOE
Gary Clayton, John Felix, Lise Marx - DEQE/DWWR
Thomas McLaughlin, Judy Perry - DEQE/DWPC
Henry Woolsey - DFWELE/NHESP
Philip Coates - DFWELE/DMF
Fara Courtney, MCZM North Shore Regional Coordinator
William Geary - MDC
Frederick Salvucci - EOTC
James O'Leary - MBTA
Paul Levy - MWRA
David Davis - MASSPORT
Col. Thomas Rhen, Joe Horowitz - NED/ACOE
Edward Reinert - EPA
Nathaniel S. Lawrence, Esq. - AG Office
Steven I. Burr, Esq. - Gaston and Snow
Robert Marcovitch, Esq. - Goulston and Storrs
East Saugus Waterfront Task Force
Concerned Coastal Sportsmen's Association
Beachmont Yacht Club
Revere Neighborhood Coalition
Roughan's Point Association
Broad Sound Tuna Club



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

Planning Division
Impact Analysis Branch

10 JUN 1988

Honorable George V. Colella
Mayor of Revere
City Hall
Revere, Massachusetts 02151
Attn: Mr. Frank Stringi

Dear Mayor Colella:

Attached, for your information, is a letter that I have sent to Massachusetts Secretary of Environmental Affairs, James Hoyte, concerning the nominated Broad Sound Area of Critical Environmental Concern (ACEC).

If you have any comments regarding this matter, please furnish them directly to Secretary Hoyte by June 23, 1988. His full address is:

James S. Hoyte, Secretary
Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Attachment



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

Planning Division
Impact Analysis Branch

10 JUN 1988

James S. Hoyte, Secretary
Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary Hoyte:

Thank you for your letter of April 8, 1988 concerning the Broad Sound Area of Critical Environmental Concern (ACEC) nomination, and for providing the opportunity for my staff to meet with Brad Barr on the ACEC Program. Our meeting of May 6 with Mr. Barr was very productive in outlining the potential implications of an ACEC designation on the New England Division's (NED's) projects undertaken on behalf of local and Commonwealth sponsors.

It is our understanding that the nominated ACEC will be:

- 1) designated with the boundaries as nominated, or
- 2) designated with revised boundaries, or
- 3) not designated

It is further understood that, should an ACEC be designated, all work within the designated area would be subject to higher environmental performance standards. These would include:

1) Under the Massachusetts Coastal Zone Management Program, focus on the area would be intensified by the application of Policy 2 that calls for all EOE agencies, including CZM, to take action through their programs and regulatory responsibilities, to protect an ACEC.

2) Under the Wetlands Protection Act, performance standards for land under the ocean, tidal flats, coastal dunes and rocky intertidal shores would change from "minimize adverse effects" to "no adverse effect."

3) Under the Waterways Licensing Program (Chapter 91), the standard would change from "minimize adverse effects to the environment" to "no adverse impact." Further, no license would be issued for "improvement dredging in any part of an ACEC, except for the purposes of shellfish enhancement or other marine productivity."

4) Under the Water Quality Standards of the Division of Water Pollution Control, the Division would be required to classify waters within this ACEC as SA and to incorporate strict antidegradation standards.

A brief description and status update of NED projects in the nominated area, and our understanding of how they might be impacted by an ACEC designation, follows:

1. Pines River Navigation

Type of Project: Improvement dredging for recreational navigation. Section 107-Continuing Authority.

Project Description: Proposed construction of a 6500 foot long Federal navigation channel from the confluence of the Saugus and Pines River upstream to the head of navigation, with a 5 acre anchorage along the western limit of the downstream channel reach.

Estimated Cost: \$1,200,000

Status: Deferred at this time due to its primarily recreational nature.

Sponsor: City of Revere/Massachusetts DEM

Impact of ACEC: Prohibited under Chapter 91.

2. Saugus River Navigation

Type of Project: Improvement dredging for commercial navigation. Section 107-Continuing Authority.

Project Description: Proposed construction of an 18,400 foot long Federal navigation channel from deep water in the western channel of Lynn Harbor upstream to the vicinity of the Marshall Boat Yard, plus two anchorage areas totalling 4.3 acres upstream from Western Ave.

Estimated Cost: \$1,400,000

Status: Preparing a Detailed Project Report for Washington approval.

Sponsor: Town of Saugus/Massachusetts DEM

Impact of ACEC: Prohibited under Chapter 91.

3. Point of Pines

Type of Project: Coastal flood protection for about 360 structures, mostly residences. Section 205-Continuing Authority.

Project Description: The proposed project includes a) 1600 linear feet of stone revetment with beach sand replenishment along the southerly shore of Point of Pines, b) 1700 linear feet of sand dune replenishment and beach grass planting extending northward from the revetment and, from there, c) 1750 linear feet of concrete wall along the Saugus River to the General Edwards Bridge.

Estimated Cost: \$5,000,000

Status: Authorized by Washington to prepare plans and specifications. Subject to receipt of agreed-to local cooperation agreement by the sponsor, authorization for construction could occur.

Sponsor: City of Revere

Impact of ACEC: Upgraded performance standards under Wetlands Protection Act, Chapter 91 and CZM consistency review could preclude the project.

4. Roughans Point

Type of Project: Coastal flood protection for 300 residences. Congressionally Authorized Project.

Project Description: Approximately 4000 feet of stone revetment would be placed along the shore. Interior drainage improvements would be made. A sluice gate would be constructed on Sales Creek by the Revere Beach Parkway.

Estimated Cost: \$10,000,000

Status: Authorized for construction. In Preconstruction Engineering & Design Phase.

Sponsor: City of Revere/Massachusetts DEM

Impact of ACEC: Upgraded performance standards under Wetlands Protection Act, Chapter 91 and CZM consistency review could preclude the project.

5. Revere Beach Erosion Control

Type of Project: Coastal flood protection for reduction of damage to seawalls. Congressionally Authorized Project.

Project Description: Project would consist of placing about 800,000 cubic yards of sandfill along approximately 1300 feet of Revere Beach to form a 50 foot wide berm at elevation +18 feet above mlw seaward of the existing seawall, with the fill then sloping down 1 on 15 to the existing beach. The sand would be obtained from the abandoned I-95 embankment in the Saugus/Pines estuary.

Estimated Cost: \$8,700,000

Status: Authorized for construction. Funds to initiate construction appropriated in FY 87.

Sponsor: Metropolitan District Commission

Impact of ACEC: Upgraded performance standards under Wetlands Protection Act, Chapter 91 and CZM consistency review could preclude the project.

6. Saugus River and Tributaries

Type of Project: Flood damage reduction for 5000 residential, commercial, industrial and public buildings. Congressionally Authorized Study.

Project Description: The preferred Regional Saugus River Floodgate Plan would include floodgates at the mouth of the Saugus River in a 1300 foot long structure, including a navigation gate and flushing gates; dikes and/or walls along 1.5 miles of Lynn Harbor; 0.6 miles of earth dike on high ground near the MDC Police Station behind Revere Beach; and preservation of a ponding area with a 0.1 mile containing wall behind Revere Beach Boulevard. Potential indirect impacts of the floodgate on the estuary may cause the project footprint to include the entire estuary.

Estimated Cost: \$55,000,000

Status: Feasibility Study Phase.

Sponsor: Lynn, Malden, Revere, Saugus/Metropolitan District Commission.

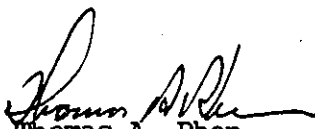
Impact of ACEC: Upgraded performance standards under Wetlands Protection Act, Chapter 91, CZM consistency review and Water Quality Certification process could preclude the project.

In summary, six projects sponsored by local interests and Commonwealth agencies could be either clearly prohibited (Pines and Saugus River Navigation) or placed at high risk of being precluded by the upgraded performance standards associated with an ACEC designation in the nominated area (Point of Pines, Roughans Point, Revere Beach Erosion Control, Saugus River and Tributaries). Collectively, these projects represent a majority of the spatial extent of the nominated ACEC.

If you have any questions or require further information, please call me at 647-8220. Dr. Joseph Horowitz of my staff will be handling the details. He can be reached at 647-8518.

I appreciate your early inclusion of NED in the coordination of this important ACEC nomination.

Sincerely,

A handwritten signature in dark ink, appearing to read "Thomas A. Rhen", is written over the typed name.

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copies Furnished:
(See Attached List)

Copies Furnished:

Mr. Brad Barr
Office of Coastal Zone Management
100 Cambridge Street
Boston, Massachusetts 02202

Ms. Fara Courtney
Office of Coastal Zone Management
159 Main Street
Gloucester, Massachusetts 01930

Mr. Henry Higgott
MDC Parks, Engrg. & Construction
20 Somerset Street
Boston, Massachusetts 02108

Mr. Carney Terzian
MDC Parks, Engrg. & Construction
20 Somerset Street
Boston, Massachusetts 02108

Mr. William Geary, Commissioner
MDC
20 Somerset Street
Boston, Massachusetts 02108

Mr. Eugene Cavanaugh
Acting Director & Chief Engineer
DEM/Division of Waterways
Building 45, 349 Lincoln Street
Hingham, Massachusetts 02043

Mr. Norman B. Hansen
Town Manager
Town Hall
Saugus, Massachusetts 01909
Attn: Mr. Dennis Roy

Honorable George V. Colella
Mayor of Revere
City Hall
Revere, Massachusetts 02151
Attn: Mr. Frank Stringi

Honorable Albert V. DiVirgilio
Mayor of Lynn
City Hall
Lynn, Massachusetts 01901
Attn: Mr. Stephen Smith

Honorable James S. Conway
Mayor of Malden
Government Center
200 Pleasant Street
Malden, Massachusetts 02148
Attn: Mr. Henry Mulhern

Mr. Steve Davis, Director
EOEA/MEPA Unit
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202

Mr. Daniel McAuliffe
Broad Sound ACEC Nominating Committee
c/o Roughans Point Association
P.O. Box 557
Revere, Massachusetts 02151



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

Planning Division
Impact Analysis Branch

10 JUN 1988

Honorable George V. Colella
Mayor of Revere
City Hall
Revere, Massachusetts 02151
Attn: Mr. Frank Stringi

Dear Mayor Colella:

Attached, for your information, is a letter that I have sent to Massachusetts Secretary of Environmental Affairs, James Hoyte, concerning the nominated Broad Sound Area of Critical Environmental Concern (ACEC).

If you have any comments regarding this matter, please furnish them directly to Secretary Hoyte by June 23, 1988. His full address is:

James S. Hoyte, Secretary
Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Attachment

Same letter sent to:

Mr. William Geary, Commissioner
MDC
20 Somerset Street
Boston, Massachusetts 02108

Mr. Eugene Cavanaugh
Acting Director and Chief Engineer
DEM/Division of Waterways
Building 45, 349 Lincoln Street
Hingham, Massachusetts 02043

Mr. Norman B. Hansen
Town Manager
Town Hall
Saugus, Massachusetts 01909
Attn: Mr. Dennis Roy

Honorable George V. Colella
Mayor of Revere
City Hall
Revere, Massachusetts 02151
Attn: Mr. Frank Stringi

Honorable Albert V. DiVirgilio
Mayor of Lynn
City Hall
Lynn, Massachusetts 01901
Attn: Mr. Stephen Smith

Honorable James S. Conway
Mayor of Malden
Government Center
200 Pleasant Street
Malden, Massachusetts 02148
Attn: Mr. Henry Mulhern

Copy Furnished

James S. Hoyte, Secretary
Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Mr. Brad Barr
Office of Coastal Zone Management
100 Cambridge Street
Boston, Massachusetts 02202

Ms. Fara Courtney
Office of Coastal Zone Management
159 Main Street
Gloucester, Massachusetts 01930

Mr. Steve Davis, Director
EOEA/MEPA Unit
100 Cambridge Street, 20th Floor
Boston, Massachusetts 02202

Mr. Daniel McAuliffe
Broad Sound ACEC Nominating Committee
c/o Roughans Point Association
P.O. Box 557
Revere, Massachusetts 02151

Mr. Henry Higgott
MDC Parks, Engineering and Construction
20 Somerset Street
Boston, Massachusetts 02108

Mr. Carney Terzian
MDC Parks, Engineering and Construction
20 Somerset Street
Boston, Massachusetts 02108



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254

REPLY TO
ATTENTION OF

October 11, 1988

Planning Division
Basin Management Branch

Dear Study Sponsor:

This is in regard to the Saugus River and Tributaries Field Trip and Issue Resolution Conference on 18 and 19 October 1988.

A room at Mangini's in East Boston (972 Saratoga Street) near the intersection of Saratoga and Bennington Streets (see attached map) has been reserved for lunch on 18 October preceding the field trip. You are invited to join us and the Washington review team for lunch at 11:30 at Mangini's. During the lunch I'll provide a project overview briefing for the group. Then we'll proceed to Eliot Circle at Revere Beach at 1:00 PM to start the field review. Please call me by 14 October on the number of people joining us for lunch.

On the morning of 19 October the conference will start sharply at 8:00 AM in the Best Western-East Hotel, 420 Totten Pond Road, Waltham (East off Rt. 128, Exit 27A). A working lunch will be served at \$7 per person. The conference will conclude by 2:00 PM.

Thank you for your interest in participating. If you have any questions, please call me on (617) 647-8216.

Enclosure


Robert G. Hunt
Project Manager

Copy to:

Metropolitan District Commission

Mr. Francis Faucher	Mr. Carney Terzian
Mr. Henry Higgott	Mr. Joseph Orfant
Mr. Paul DiPietro	

City of Lynn

Mr. Steve Smith	Mr. Paul Petrowski
-----------------	--------------------

City of Malden

Mr. Jack Russell	Mr. John Kelley
------------------	-----------------

City of Revere

Mr. Frank Stringi	Mr. Paul Cacciola
-------------------	-------------------

Town of Saugus

Mr. Norman Hansen	Mr. John Mahoney
-------------------	------------------

DESIGNATION OF PORTIONS OF THE CITIES OF
BOSTON, LYNN, AND REVERE, AND THE TOWNS OF
SAUGUS AND WINTHROP

AS THE

RUMNEY MARSHES
AREA OF CRITICAL ENVIRONMENTAL CONCERN

WITH SUPPORTING FINDINGS

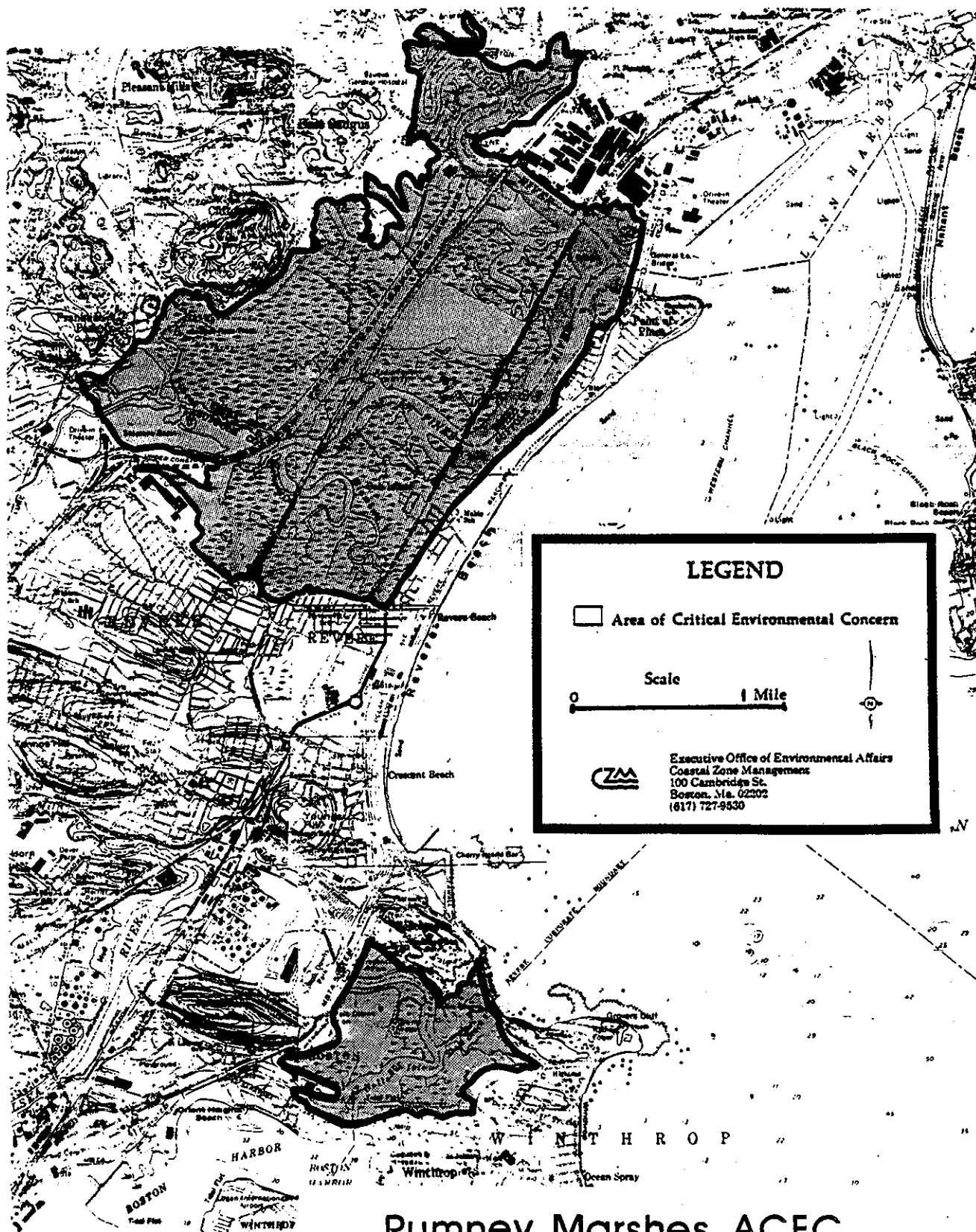
Following an extensive formal review required by the regulations of the Executive Office of Environmental Affairs (301 CMR 12.00) including nomination review, research, meetings, and evaluation of all public comments, I, the Secretary of Environmental Affairs, hereby designate portions of the Cities of Boston, Lynn, and Revere, and the Towns of Saugus and Winthrop, as described below, as an Area of Critical Environmental Concern (ACEC). I take this action pursuant to the authority granted me under Massachusetts General Law c. 21A, s. 2(7).

I also hereby find that the coastal wetland resource areas included in the Rumney Marshes ACEC, the title taken from the name used during the colonial era to identify the marshes and lowlands of this region, are significant to flood control, the prevention of storm damage, the protection of land containing shellfish, and fisheries; the prevention of pollution, the protection of wildlife habitat, the protection of public and private water supplies; public interests defined in the Wetlands Protection Act (MGL c. 131, s. 40; 310 CMR 10.00).

I. Boundary of the Rumney Marshes ACEC

Upon review of the boundaries as recommended in the nomination letter and subsequent recommendations made in testimony received, the designated boundary encloses two principal wetland systems, the Saugus and Pines River Estuary, and Belle Isle Marsh. The landward boundary, in large part, is the 100 year flood elevation as delineated by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and Floodway Maps. However, in certain specific locations described herein, the landward boundary may change to the edge of wetland, as defined in the Wetlands Protection Act (MGL c. 131 s.40), or artificial boundaries.

Specifically, the boundary of the Saugus and Pines Estuary is defined as follows: The area includes the Saugus and Pines Rivers and wetland resource areas falling within and adjacent to this estuarine system. Beginning at the northerly shore of the Saugus River, at a point where the westerly edge of the railroad right-of-way intersects the 100 year flood elevation, the boundary follows the thread of the shoreline at the 100 year flood elevation. The boundary continues at this elevation through the Lynn and East Saugus waterfronts, southwesterly to Franklin Park in Revere, then southeasterly to a point in Revere where North Shore Road intersects this elevation. The boundary then follows the westerly (marshward) side of North Shore Road until it reaches Mills Avenue, which the boundary follows until it reaches the



LEGEND

□ Area of Critical Environmental Concern

Scale 0 1 Mile

CZM Executive Office of Environmental Affairs
Coastal Zone Management
100 Cambridge St.
Boston, Ma. 02202
(617) 727-9530

Rumney Marshes ACEC

railroad right-of-way. The boundary follows the westerly side of this right-of-way, across the Saugus River, to the point from whence it started.

The boundary of the Belle Isle Marsh portion of the ACEC is defined as follows: The area includes the Belle Isle Creek, the marshes of this system, and the tributary streams. Beginning at the northerly end of Bennington Street in Revere at a point of intersection between the easterly (marshward) edge of the street and the 100 year flood elevation, the boundary follows Bennington Street in a southerly direction to where it crosses Belle Isle Creek. The boundary then becomes coincident with the jurisdictional boundary of the Wetlands Protection Act (i.e. typically 100 feet beyond the edge of the wetland resource area). The ACEC boundary follows along the creek in a northwesterly direction to Sales Creek, which is also subject to this designation. In general, all lands and waters falling under the jurisdiction of MGL C. 131, s. 40 in the Belle Isle Creek and Sales Creek areas falls within this designation. On the southerly side of Belle Isle Creek at Bennington Street, the boundary continues along the easterly edge of the street until a point at the intersection with Leverett Street. From this point, the boundary becomes the "edge of wetland", as defined in the Wetlands Protection Act and regulations promulgated thereunder, and follows the thread of the wetland edge to East Boston and around the MBTA Rail Yard to a point, at the southerly side of the yard, where the edge of wetland roughly intersects with the 100 year flood elevation. From this area, the boundary follows this elevation to a point of intersection with Winthrop Parkway. The boundary follows the westerly edge of the Winthrop Parkway to Crystal Street in Revere, which it follows until a point of intersection with 100 year flood elevation. From this point, the boundary continues at this elevation to the point from whence it started.

II. Boundary Exclusions and Exemptions from Designation:

There are three separate areas that fall within the described boundaries which are to be excluded. The first is the "footprint" of the proposed Belle Isle Creek dredging project. Given that this project is currently only in the preliminary planning stages and there is no indication, at this time, precisely which areas will be dredged, the ultimate exclusion will be based on the plans for the project as approved by the Office of Coastal Zone Management through their Federal Consistency review. This exclusion is granted with the provision that the Department of Environmental Management, through its Division of Waterways, will direct the planning of this project in a manner consistent with the ACEC designation.

The second and third exclusions are for the dredging of the Saugus

Rumney Marshes ACEC Designation

22 August, 1988

Page 3

and Pines Rivers. Like the Belle Isle dredging exclusion, the final configuration of the exclusion will be based on the project plans as approved by the Office of Coastal Zone Management through their Federal Consistency review.

The rationale for the exclusion of the Saugus River dredging project is based on the intent of the Executive Office of Environmental Affairs to continue in its active support of commercial fishing and related activities in the Saugus River. The dredging of this channel, and associated limited anchorage areas, will enhance navigational access to the river. With this enhanced access comes the potential for greater competition between the commercial and recreational boating interests. The principal resource being competed for is space; space for dockage, for moorings, and for appropriate shoreside services. Nearly all of this space is created or enhanced through new dredging, which is prohibited under the ACEC designation. In recognition of this improvement dredging prohibition and the potential adverse effect it may have on the commercial fishing industry in the Saugus River, a secretarial waiver, pursuant to 301 CMR 12.15, of this prohibition will be considered in instances where the proposed project: 1) provides the broadest possible public benefit; 2) is consistent with the goals of the EOEa in supporting the commercial fishing industry in the Saugus River; 3) is otherwise consistent with the rigorous standards of the ACEC designation; and 4) is fully consistent with the MCZM Program Policies. It should be understood that this waiver will not be granted lightly, and that projects receiving a waiver will very closely scrutinized as they pass through the regulatory process.

The reason for the Pines River dredging being excluded from the designation is directly tied to the exclusion of the dredging of the Saugus. The Pines River is predominantly a recreational boating area, and taken within the context of the Saugus/Pines system, it is the more appropriate location to allow the development of new or expanded recreational boating facilities. To this end, a secretarial waiver will be considered for projects related to recreational boating and related shoreside services. The same conditions listed above, particularly Nos. 1, 3, and 4, will be the framework used to determine whether the granting of a waiver is appropriate. However, significantly more emphasis will be placed on the "public benefits" aspects of the project requesting a waiver.

The intent of these exclusions and discretionary waivers is provide some additional level of protection to the resource areas within the ACEC. If, at some time in the future, the local municipalities were to develop an appropriate regional harbor management plan for the Saugus and Pines Rivers, this management plan would then provide the basis for waiver

decisions. The communities responsible for these two harbor areas should contact the MCZM Harbor Planning Coordinator to find out more about ongoing technical support and funding programs for this type of planning.

Two specific projects, and a few small activities accessory to other large public works projects falling outside the boundary, are to be exempted from the designation. These projects are being "exempted" from the designation rather than "excluded" from the boundary because they have a scope of activities which cannot be properly defined by a standard geographic exclusion, are projects with potentially broad public benefits, and are or have already been closely scrutinized by the environmental regulatory agencies.

The Saugus River Flood Damage Reduction Project is the first project to be exempted from the designation. Like the excluded projects discussed above, this project will be exempted as it is approved by the Office of Coastal Zone Management through its Federal Consistency review. I feel that the ongoing interagency review process, directed by the Corps of Engineers, will allow the project to be closely scrutinized as to its environmental impacts and provide for appropriate mitigation. This process will meet or exceed the intent of the designation with regard to the proposed project.

The second project to be exempted from the designation is the Sales and Green Creeks Flood Control Projects. This project is being directed by the DEM, Division of Waterways and has recently received a Secretarial Certificate for the Final Environmental Impact Report (FEIR). Given the close scrutiny the project has already received through the MEPA process, and the broad public benefit resulting from the project, I feel that the project has met the intent of the designation and should be allowed to proceed under the preexisting environmental standards. Like the Corps of Engineers, the DEM should realize that these exemptions carry with them the responsibility of assuring that the projects are planned and carried out in the most environmentally sensitive manner possible. We will be closely watching the progress of both of these projects to assure these responsibilities are met.

Two smaller exemptions are activities related to projects which fall outside the boundary of the ACEC. There is a tide gate to be improved and maintained in Sales Creek as a part of the Roughan's Point Flood Reduction Project. To facilitate the overall project, this activity is exempt from the designation. The second exemption is the removal of sand from the so-called "I-95 Embankment". While the removal of this material may not present a problem even under the designation, in the interest of clarity and facilitation of an important beach nourishment project, this activity

is also exempt. It is presumed that this excavation will be consistent with the existing Secretarial Certificate for the project. In general, I am, and have been, very concerned with the ultimate fate of this fill. To restate my position, our ultimate goal is to remove the fill and restore the marsh. Any activity which does not further this goal will be deemed inconsistent with the designation.

The area included in the designation has been significantly reduced from that which was proposed by the nominating committee. This reduction in geographic scope was not made lightly, nor without due consideration for the potential importance of these areas with regard to resource protection. While we have concluded that these areas are inappropriate for designation, it should be recognized that all activities in the vicinity of an urban marshland such as this have the potential for adverse environmental impacts, especially the degradation of water quality or wildlife habitat values. It is incumbent on those who propose to build in these adjacent areas to consider carefully the potential adverse impacts that may be associated with their projects. It is equally important that the surrounding communities closely scrutinize their zoning and land use controls adjacent to these valuable resources to assure that these local controls enhance the protections afforded by the designation. Finally, all EOEAs should be reminded, as a result of this designation, of their responsibility to reflect the environmental sensitivity of this area in their decisions.

III. Designation of the Resources of the Rumney Marshes ACEC

In my letter of acceptance of the nomination of the Saugus and Pines Rivers and Belle Isle Marsh as an ACEC, I indicated that our evaluation indicated that it easily met the minimum threshold for consideration. The nomination letter clearly lists the quantity and quality of the resources present.

The presence of these resources, and their relatively undisturbed nature within such a developed area, clearly indicate their value to the region and the state.

IV. Procedures Leading to ACEC Designation

On 15 March, 1988, a letter of nomination, signed by ten citizens of the Commonwealth and pursuant to 301 CMR 12.00, was received by my office. The nomination was formally accepted by letter on 1 April, 1988, and the review process was begun.

Notice of the acceptance of the nomination and of an informational meeting and a public hearing was published in the Boston Globe and in the Massachusetts Environmental Monitor on 12 May, 1988. Numerous informational articles appeared in the local and regional newspapers.

A meeting for town officials was held on 24 May, 1988, and an informational meeting for the general public followed on 26 May, 1988. The public hearing was held on 23 June, 1988, and the public comment period was held open until 8 August, 1988. Written and oral testimony was received from 39 individuals and organizations at the public hearing and 64 comment letters were received before the close of the comment period. The comment letters and public hearing testimony is on file at the MCZM office.

V. Discussion of Criteria for Designation Specified 301 CMR 12.06

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 12.06 of the EOE regulations. As stated in these regulations, the factors need not be weighed equally, nor must all of these factors be present for an area to be designated. While the more factors an area contains, the more likely its designation, the strong presence of even a single factor may be sufficient for designation.

Based on the information in the nomination letter, presented at the public hearing, and through written comments, and on the research of my staff, I find the following factors relevant to the designated ACEC:

Threats to Public Health through Inappropriate Use

Saltmarshes play an important role in the prevention of flood damage by providing vital flood storage capacity. This capacity is lost when marshlands are filled. It has been documented, through research of the Corps of Engineers, that the saltmarshes of the Saugus and Pines River Estuary have experienced filling of saltmarshes at a rate of approximately 6 acres per year. Just considering the loss of flood storage capacity of the system, ignoring for the moment the other vital roles saltmarshes play in coastal ecosystems, this magnitude of presumably illegal fill has significant implications with regard public health, safety, and welfare.

Productivity

The Saugus and Pines Estuary, situated landward of the barrier beach of Revere, contains one of the most extensive salt marsh systems in the greater Boston metropolitan area. Including Belle Isle Marsh, the areas contain approximately 1000 acres of saltmarsh, tidal flats, and shallow

subtidal channels. The U.S. Fish and Wildlife Service characterizes the designated area as "one of the most biologically significant estuaries in Massachusetts north of Boston". Further quoting from the USFWS comment letter:

"Nearly 70 percent of all commercial fish and shellfish resources are dependent on estuaries for spawning and nursery grounds. Winter flounder, alewife, smelt, blueback herring, and American eel are a few of the more common finfish that occur within the nominated estuarine ecosystems...Intertidal habitats...support a wide variety of invertebrate resources. These include soft shelled and razor clams, mussels, snails, marine worms, and other invertebrates that are integral components of the marine food chain. Although many of the shellfish beds are too contaminated for human consumption, they represent an important food source for wildlife, attracting large numbers of wintering waterfowl to the area annually".

The list of bird species, migratory or indigenous, is extraordinary. The Massachusetts Natural Heritage and Endangered Species Program has commented that the area contains at least 5 species listed by the Division of Fisheries and Wildlife as Endangered, Threatened, or a Species of Special Concern. Despite its proximity to the intense development of the area, there is little doubt of the productivity of the designated area.

Uniqueness of the Area

Given its close proximity to a major metropolitan center with a population in excess of one million, this relatively undisturbed estuary and marsh complex is indeed unique. Much like the Back River ACEC and the Weir River ACEC to the south, this relatively large tract of marshland habitat, situated in an area subject to intense development pressure, provides the resource base necessary to maintain the diversity and productivity of an ecosystem which must, despite stringent regulation, accommodate the cumulative impacts arising from this development. While there may be smaller parcels of marshland which dot the urban landscape, the inventory of larger marshes capable of supporting these vital resources is dwindling and must be preserved.

Imminence of Threat to Resources

Despite laws and regulations to the contrary, construction on the fringes of marshes and waterways can result in incremental filling over time. As mentioned above, this is especially true in the Saugus and Pines River Estuary. The intensity of development, especially adjacent to the

Rumney Marshes ACEC Designation

22 August, 1988

Page 8

designated areas, is ever increasing. Given the existing intensity of development in the area, the chronic and cumulative impacts associated with this proposed development activity may exceed the system's capacity to accommodate its effects.

It is hoped that this designation will serve to focus attention on the value and sensitivity of the area and will provide a guide for future development proposals.



James S. Hoyte
Secretary of Environmental Affairs



Date



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

August 25, 1988

REPLY TO
ATTENTION OF

Planning Division
Basin Management Branch

Mr. James S. Hoyte, Secretary
Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary Hoyte:

I wish to thank you for the opportunity to attend the dedication ceremony for the Rumney Marshes Area of Critical Environmental Concern (ACEC) on August 23 and to share with you the joy of the occasion. I view the spirit of cooperation between our agencies during the process leading to the designation as a portent of future cooperative efforts both in the Saugus and Pines River area of the ACEC and for programs throughout the Commonwealth.

I would like to specifically cite the efforts of Mr. Brad Barr, your ACEC Program Coordinator. His professional attitude and always friendly presence in the important detailed discussions with my staff concerning the ACEC and Corps projects was very commendable.

The cooperative effort which has been fostered between our two agencies can only be a positive force in helping to meet both human and environmental needs. As I depart from New England Division I know that this spirit will continue to grow and flourish.

Sincerely,

Thomas A. Rhen
Colonel, Corps of Engineers
Division Engineer

Copy Furnished:

Mr. Brad Barr
ACEC Program Coordinator
Coastal Zone Management Office
100 Cambridge Street
Boston, Massachusetts 02202



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

October 5, 1988

REPLY TO
Planning Division
Basin Management Branch

Mr. Francis Faucher, Director
Parks, Engineering and Construction
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108

Dear Mr. Faucher:

This is in regard to the Saugus River and Tributaries Flood Damage Reduction Study and proposed Regional Saugus River Floodgate Plan. This project was formulated to provide the highest possible level of coastal flood protection to citizens, businesses and major public facilities serving Lynn, Malden, Revere and Saugus and resources of the North Shore.

This is to confirm my staff's invitation to you and members of your staff to review this important project both in the field on October 18 followed on the morning of the 19th with an Issue Resolution Conference with reviewers from our Washington staff to discuss the project and issues.

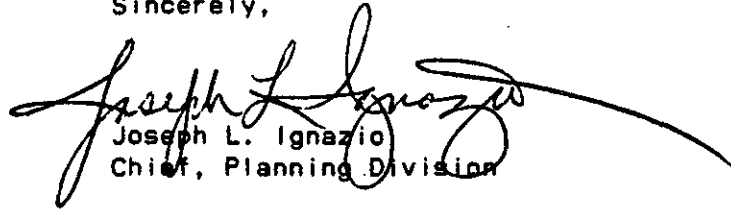
The purpose of the conference is to present the project and discuss issues with our Washington headquarters review staff and project sponsors before the draft report is distributed for public review in January 1989. The review staff will represent the Assistant Secretary of the Army, the Board of Engineers for Rivers and Harbors and the Chief of Engineers Office. In addition to a review of the flooding problems, navigation and environmental opportunities, the project's plan formulation of features along the Revere Beach Reservation, Point of Pines and Lynn Harbor and Floodgates at the mouth of the Saugus River will be discussed.

A major issue to be discussed will be whether the Corps can accept the responsibility to operate and maintain the Floodgate structure with upfront state funds, as previously discussed between Commissioner Geary and former Division Engineer, Colonel Thomas Rhen.

An Agenda, Project Fact Sheet and Position Paper for the operation and maintenance issue are enclosed for use at the Issue Resolution Conference.

If you have any questions, please feel free to call me at 617-647-8599 or Mr. Robert G. Hunt, the Project Manager, at 617-647-8216.

Sincerely,



Joseph L. Ignazio
Chief, Planning Division

Enclosures

Copy Furnished:

Mr. William J. Geary, Commissioner
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108

Mr. Carney Tersian
MDC Parks Engineering and Construction
20 Somerset Street
Boston, MA 02108

Mr. Joseph Orfant
MDC Planning Office
20 Somerset Street
Boston, MA 02108



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

January 18, 1989

Executive Office

Commissioner William J. Geary
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts 02108

Dear Commissioner Geary:

I am writing to inform you of the Corps recent reorganization of our Project Management system and how this may affect our ongoing work at the SENE, Town Brook and Revere Beach projects.

The basis for our reorganization is the Water Resources Development Act of 1986 (WRDA86) which introduced new challenges to the Corps in its mission of planning, designing, constructing and operating water resource projects. The Act enables our non-Federal sponsor, as a direct partner, to participate more actively in the decision-making process of a project. The cost sharing aspect creates a dual accountability to provide for more efficient and fully developed projects.

Imposed cost restraints greatly influenced our instituting a mechanism for streamlining the system while providing comprehensive planning, design and construction management enhancement procedures. As a result the Corps developed a stronger project management orientation to improve accountability for time, cost, and quality throughout the project development cycle.

Previously, the Corps project management system relied heavily on decentralized program execution. This process required a passing of project accountability from the Chief of Planning Division and his Study Manager during Feasibility Stage to the Chief, Engineering Division and his Design Manager through pre-engineering and plans and specifications. Once construction award is made the Chief of Construction Division and his Project Engineer administers the work of the construction contractor.

A Life Cycle Project Management (LCPM) system has now been established to orchestrate the entire project development. While the functions of the divisional elements remain to technically specialize in their project phase, the Life Cycle Project Manager, who reports directly to the Executive Office and myself, will provide complete project overview, coordination and accountability throughout the life of the project.

The Life Cycle Project Management system at New England Division currently consists of a Deputy Division Engineer for Project Management, Mr. William F. McCarthy, and the Life Cycle Project Manager, Mr. Robert J. Gauvreau. Mr. Gauvreau's involvement includes management of the Southeastern New England Study in Revere, Lynn and Saugus, the Town Brook Project and Revere Beach.

It should be noted that the establishment of Life Cycle Project Management is just one result of WRDA 86. Also as a direct consequence of WRDA 86, greater responsibility is shared with our local sponsor for project development. Our partnership commitment includes the Local Sponsor as an active participant. This means the Local Sponsor (MDC) has to assume not only some of the cost burdens but a high degree of direct positive interaction with the communities in determining local concerns, resolving issues and obtaining in a timely manner necessary lands, permits and certifications essential to the project success.

I believe the system is a good one and will produce quality projects in a time-saving and more cost effective manner. I am looking forward to continuing our productive partnership with your agency.

Sincerely,

Daniel M. Wilson
Colonel, Corps of Engineers
Division Engineer



**The Commonwealth of Massachusetts
Metropolitan District Commission
William J. Geary, Commissioner**

**20 Somerset Street
Boston, MA 02108
617-727-5114**

March 27, 1989

**The
Metropolitan Network
of Services**

Parks

Colonel Daniel M. Wilson, Division Commander
U.S. Army Corps of Engineers,
New England Division
424 Trapelo Road
Waltham, MA 02254-9149

Beaches

Community Boating

Historic Sites

RE: Flood Damage Reduction Project; Saugus, Lynn, Revere and Malden:
Request to U.S.A.C.E. NED for Support of Operation and Maintenance
of Saugus River Tidal Floodgates

Recreational Facilities

Dear Colonel Wilson:

Public Concerts

Trailside Museum

Boston Harbor Islands

Metropolitan Police

Flood Control

The Flood Damage Reduction Project is unique in scope and design in terms of region protected and environmental and navigation sensitivity. It will be among the largest urban flood control projects in New England encompassing four major metropolitan Boston municipalities. The project directly affects and will benefit a combined residential, commercial, industrial and commuter population of 400,000; this includes a major defense establishment, the General Electric Co., (Jet Engine Manufacturing Plant); North Shore Gas and Electric Co., and wastewater treatment facilities in Lynn, as well as five major north shore transportation arteries.

Watershed Management

Pure Water Supply

**Quabbin, Wachusett and
Sudbury Reservoirs**

**Franklin Park and
Stone Memorial
Zoos**

The Executive Office of Environmental Affairs, Commonwealth of Massachusetts, has proclaimed the Rumney Marsh as an Area of Critical Environmental Concern (ACEC) to protect the salt marsh and wetlands from further encroachment and degradation from urban or industrial development. No changes in physical features, estuary dynamics or water quality are allowed in this marsh, with the exception of this and several other federally sponsored projects. Note that this exception was mandated by strong community and statewide support for the Flood Reduction Project indicating universal public acceptance.

**Parkway, Boulevard and
Bridge System**

**Charles, Mystic and
Neponset Rivers**

**Beaver Brook, Blue Hills,
Elm Bank, Breakheart,
Middlesex Fells, and
Stony Brook Reservations**

The proposed tidal floodgates and other project features must be aesthetically pleasing as well as functional to protect the adjacent communities against a (SPN) storm far worse than the 1978 event. This is a major concern to the MDC and I am sure all appropriate steps will be taken to eliminate community concerns. The proposed flood gates structures include a 100 ft. navigation gate in addition to ten 50 ft. flushing gates at the mouth of the Saugus River. This gate configuration will allow safe passage for navigators and will maintain the natural tide levels and flushing in the salt marsh during storm events. It is essential that appropriate flushing takes place in order to protect this fragile estuary environment.



Colonel Daniel Wilson
March 27, 1989
Page 2

This is one of the first projects in New England that will specifically require monitoring and protection of the wetlands to preserve the natural flood water storage requirement of the project to reduce damages.

The operational control of this amount of machinery requires a specialized staff with sophisticated facilities to predict closure for coastal storms. This is complicated by interior runoff storage during gate operation, and the need to minimize navigation and environmental impacts, and yet substantially reduce storm damage. Operating and maintaining the project to meet the intended goals would be a challenge to the Commonwealth. The Corps alone is better equipped and has more extensive experience in operating coastal floodgates.

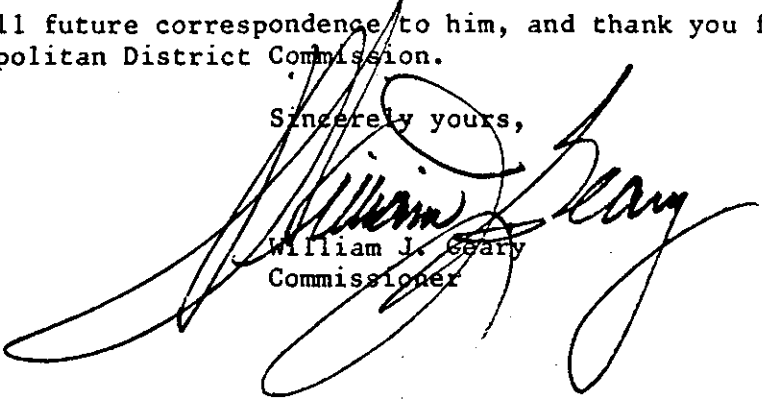
The magnitude of the project and sophisticated equipment required for operation and maintenance will be considerable. It will be necessary to establish a control center, a predictive level of maintenance (daily, weekly and monthly) and a projected long-term maintenance plan to produce optimum results in terms of minimal impacts and life cycle maintenance costs. MDC knows from experience that an imbalanced operation between predictive and projected maintenance, including neglect, leads to malfunction and staggering remedial costs. Staffing requires highly skilled engineers of several disciplines which the Corps already supports for similar projects. Operations and maintenance of similar projects has been successfully demonstrated by the Corps.

The Corps of Engineers experience and technical expertise to operate and maintain similar projects is needed and this expertise cannot be obtained elsewhere, I request that the U.S. Army Corps of Engineers, New England Division take the responsibility of operating and maintaining the proposed floodgate component of the Flood Reduction Project. It is anticipated that all costs for operation, maintenance and replacement will be provided by the MDC which will require state legislative approval.

As you probably know, I will be leaving my post as Commissioner on March 31. I have a great deal of confidence in my successor, Ilyas Bhatti. I know that he will build on the accomplishments of the past 6 years.

Please address all future correspondence to him, and thank you for your interest in the Metropolitan District Commission.

Sincerely yours,



William J. Geary
Commissioner

NDB/HAH/cmf